WBS No: **1CAC09** ***Title:*** **Sys 9 - Special Recovery Rm 146**

Activity ID: 1CAC71093 *Description:* Remove proc. piping, Sys. 09, Special Recovery *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.659	1.659	37.392	10.703	0	48.094	18.247	66.341
	Total for Activity 1CAC71093:					1.659	37.392	10.703	0	48.094	18.247	66.341

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	831.29	Hours
Factors	734 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	323.91	Hours
Factors	286 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	256.46	Hours
Factors	306 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
				0.74	Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	147.23	Hours
Factors	130 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	56.63	Hours
Factors	50 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	43.58	Hours
Factors	52 Hours	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor			
				0.74	Headcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	10.532.73	Dollars
Factors	124 Hours	75	Dollars per hr	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	169.88	Dollars
Factors	2 Hours	75	Dollars per hr	1.52	Difficulty Factor	0.7451	5/22/00 togo Factor	

Activity ID: 1CAC71094 *Description:* Finalize closure doc., Sys. 09, Special Recovery *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	72	1.720
	Total for Activity 1CAC71094:					5	148	1.500	0	1.648	72	1.720

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1.500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

WBS No: **1CAC10** ***Title:*** **Sys 10 - Uranium Recovery/OY Leach R. 17**

Activity ID: 1CAC71101 *Description:* Plan/Eng prep to drain Sys.10, U Recov' - OY Lch *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.499	1.499	40.504	73.049	0	113.553	19.766	133.319

Total for Activity 1CAC71101:	1.499	40.504	73.049	0	113.553	19.766	133.319

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	95.37	Hours
Factors	110 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	45.08	Hours
Factors	52 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	28.61	Hours
Factors	33 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	352.00	Hours
Factors	406 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	6.94	Hours
Factors	8 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	56.35	Hours
Factors	65 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	23.41	Hours
Factors	27 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.87	Hours
Factors	1 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	2.60	Hours
Factors	3 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	247.96	Hours
Factors	286 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	520.20	Hours
Factors	600 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	43.35	Hours
Factors	50 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	76.30	Hours
Factors	88 Hours	1	Difficulty Factor	0.867	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	23,864.17	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	5,397.07	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	9,688.72	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	12,640.86	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	9,753.75	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	11,704.50	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.867	5/22/00 togo Factor	

Activity ID: 1CAC71102 *Description:* Tap & drain System 10, U Recovery - OY Leach *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	1.862	1.862	39.242	10.089	0	49.331	18.718	68.049
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.706	3.706	0	3.706
Total for Activity 1CAC71102:						1.862	39.242	10.089	3.706	53.037	18.718	71.755

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	49.02	Hours
Factors	43 Hours	1.14 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	403.56	Hours
Factors	354 Hours	1.14 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,130.42	Hours
Factors	1340 Hours	1.14 Difficulty Factor			0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	199.09	Hours
Factors	236 Hours	1.14 Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	9.12	Hours
Factors	8 Hours	1.14 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	70.68	Hours
Factors	62 Hours	1.14 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	10,089.00	Dollars
Factors	118 Hours	75 Dollars per Hr		1.14 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,275.00	Dollars
Factors	2275 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,430.92	Dollars
Factors	1430.92 Dollars							

Activity ID: 1CAC71103 *Description:* Remove proc. piping, Sys. 10, U Recov - OY Leach *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.670	1.670	37.637	10.773	0	48.410	17.953	66.364
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.614	3.614	0	3.614
	Total for Activity 1CAC71103:					1.670	37.637	10.773	3.614	52.025	17.953	69.978

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	836.76	Hours
Factors	734 Hours	1.14 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	326.04	Hours
Factors	286 Hours	1.14 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	258.14	Hours
Factors	306 Hours	1.14 Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	148.20	Hours
Factors	130 Hours	1.14 Difficulty Factor						

751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	57.00	Hours
Factors	50 Hours		1.14 Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	43.87	Hours
Factors	52 Hours		1.14 Difficulty Factor					
					0.74 Headcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	10,602.00	Dollars
Factors	124 Hours		75 Dollars per hr		1.14 Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	171.00	Dollars
Factors	2 Hours		75 Dollars per hr		1.14 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,218.65	Dollars
Factors	2218.65 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,395.48	Dollars
Factors	1395.48 Dollars							

Activity ID: 1CAC71104 *Description:* Finalize closure doc., Sys. 10, U Recov - OY Lch *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
					Total for Activity 1CAC71104:	5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours		1 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours		75 Dollars per Hr		1 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC11** ***Title:*** **Sys 11 - Anion Exchange Rm 149**

Activity ID: 1CAC71111 *Description:* Plan/Eng prep to drain Sys 11 Anion Exch, Rm 149 *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.035	1.035	27.970	50.443	0	78.413	13.649	92.062
					Total for Activity 1CAC71111:	1.035	27.970	50.443	0	78.413	13.649	92.062

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	65.86	Hours
Factors	110 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	31.13	Hours
Factors	52 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	19.76	Hours
Factors	33 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	243.07	Hours
Factors	406 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	4.79	Hours
Factors	8 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	38.92	Hours
Factors	65 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	16.16	Hours
Factors	27 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.60	Hours
Factors	1 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.80	Hours
Factors	3 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	171.23	Hours
Factors	286 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	359.22	Hours
Factors	600 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	29.93	Hours
Factors	50 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	52.69	Hours
Factors	88 Hours	1	Difficulty Factor	0.5987	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	16,479.22	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	3,726.91	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	6,690.47	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	8,729.05	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	6,735.38	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	8,082.45	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.5987	5/22/00 togo Factor	

Activity ID: 1CAC71112 *Description:* Tap & drain System 11, Anion Exchange, Rm 149 *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	2.858	2.858	60.239	15.488	0	75.727	29.397	105.124
	Total for Activity 1CAC71112:					2.858	60.239	15.488	0	75.727	29.397	105.124

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	75.25	Hours
Factors	43 Hours	1.75	Difficulty Factor					

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	619.50	Hours
Factors	354 Hours	1.75 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,735.30	Hours
Factors	1340 Hours	1.75 Difficulty Factor						
					0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	305.62	Hours
Factors	236 Hours	1.75 Difficulty Factor						
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	14.00	Hours
Factors	8 Hours	1.75 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	108.50	Hours
Factors	62 Hours	1.75 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	15,487.50	Dollars
Factors	118 Hours	75 Dollars per Hr		1.75 Difficulty Factor				

Activity ID: 1CAC71113 *Description:* Remove proc. piping, Sys 11, Anion Exch., Rm 149 *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	2.564	2.564	57.777	16.538	0	74.314	27.915	102.229
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.330	2.330	0	2.330
	Total for Activity 1CAC71113:					2.564	57.777	16.538	2.330	76.644	27.915	104.559

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1,284.50	Hours
Factors	734 Hours	1.75 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	500.50	Hours
Factors	286 Hours	1.75 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	396.27	Hours
Factors	306 Hours	1.75 Difficulty Factor						
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	227.50	Hours
Factors	130 Hours	1.75 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	87.50	Hours
Factors	50 Hours	1.75 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	67.34	Hours
Factors	52 Hours	1.75 Difficulty Factor						
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	16,275.00	Dollars
Factors	124 Hours	75 Dollars per hr		1.75 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	262.50	Dollars
Factors	2 Hours	75 Dollars per hr		1.75 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,384.78	Dollars
Factors	1384.78 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	945.08	Dollars
Factors	945.079 Dollars							

Activity ID: 1CAC71114 *Description:* Finalize closure documents, Sys. 11, Anion Exch. *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	71	1.718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71114:					5	148	1.500	92	1.740	71	1.810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	1.500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	55.76	Dollars
Factors	55.7588 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	36.13	Dollars
Factors	36.1320 Dollars								

WBS No: **1CAC15** ***Title:*** **Sys 15 - Pu Nitrate Transfer**

Activity ID: **1CAC71151** *Description:* Plan/Eng prep to drain Sys 15, Res. Dissolution *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.725	153.697
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.103	1.103	0	1.103
	Total for Activity 1CAC71151:					1.729	46.717	84.255	1.103	132.075	22.725	154.800

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor						

750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours	1 Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours	1 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1 Difficulty Factor						
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75 Dollars per hr		1 Difficulty Factor				
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75 Dollars per hr		1 Difficulty Factor				
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75 Dollars per hr		1 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90 Dollars per hr		1 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75 Dollars per hr		1 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75 Dollars per hr		1 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	642.96	Dollars
Factors	642.957 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	460.38	Dollars
Factors	460.377 Dollars							

Activity ID: 1CAC71152 *Description:* Tap & drain System 15, Residue Dissolution *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.372	1.372	28.915	7.434	0	36.349	13.792	50.141
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.731	2.731	0	2.731
	Total for Activity 1CAC71152:					1.372	28.915	7.434	2.731	39.080	13.792	52.872

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	36.12	Hours
Factors	43 Hours	0.84 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	297.36	Hours
Factors	354 Hours	0.84 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	832.94	Hours
Factors	1340 Hours	0.84 Difficulty Factor						
				0.74 Heatcount Cuts				

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	146.70	Hours
Factors	236 Hours		0.84 Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	6.72	Hours
Factors	8 Hours		0.84 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	52.08	Hours
Factors	62 Hours		0.84 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,434.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.84 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,676.31	Dollars
Factors	1676.31 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,054.36	Dollars
Factors	1054.36 Dollars							

Activity ID: 1CAC71153 *Description:* Remove proc. piping, Sys.15, Residue Dissolution *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.231	1.231	27.733	7.938	0	35.671	13.229	48.899
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.663	2.663	0	2.663
					Total for Activity 1CAC71153:	1.231	27.733	7.938	2.663	38.334	13.229	51.563

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	616.56	Hours
Factors	734 Hours		0.84 Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	240.24	Hours
Factors	286 Hours		0.84 Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	190.21	Hours
Factors	306 Hours		0.84 Difficulty Factor					
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	109.20	Hours
Factors	130 Hours		0.84 Difficulty Factor			0.74 Heatcount Cuts		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	42.00	Hours
Factors	50 Hours		0.84 Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	32.32	Hours
Factors	52 Hours		0.84 Difficulty Factor					
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	7,812.00	Dollars
Factors	124 Hours		75 Dollars per hr		0.84 Difficulty Factor	0.74 Heatcount Cuts		
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	126.00	Dollars
Factors	2 Hours		75 Dollars per hr		0.84 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,634.79	Dollars
Factors	1634.79 Dollars							

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,028.25 Dollars

Factors 1028.25 Dollars

Activity ID: 1CAC71154 Description: Finalize closure doc., Sys. 15, Res. Dissolution Cost Risk 2 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71154:					5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: 1CAC16 Title: Sys 16 - Part V Leach Rm 114

Activity ID: 1CAC71161 Description: Plan/Eng prep to drain System 16, Part V Leach Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.454	1.454	39.284	70.850	0	110.134	19.171	129.305
	Total for Activity 1CAC71161:					1.454	39.284	70.850	0	110.134	19.171	129.305

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	92.50	Hours
Factors	110 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	43.73	Hours
Factors	52 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	27.75	Hours
Factors	33 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	341.41	Hours
Factors	406 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	6.73	Hours
Factors	8 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	54.66	Hours
Factors	65 Hours	1	Difficulty Factor	0.8409	5/22/00 togo Factor			

750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	22.70	Hours
Factors	27 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.84	Hours
Factors	1 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	2.52	Hours
Factors	3 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	240.50	Hours
Factors	286 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	504.54	Hours
Factors	600 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	42.05	Hours
Factors	50 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	74.00	Hours
Factors	88 Hours	1 Difficulty Factor	0.8409 5/22/00 togo Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	23,145.77	Dollars
Factors	367 Hours	75 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	5,234.60	Dollars
Factors	83 Hours	75 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	9,397.06	Dollars
Factors	149 Hours	75 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	12,260.32	Dollars
Factors	162 Hours	90 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	9,460.13	Dollars
Factors	150 Hours	75 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	11,352.15	Dollars
Factors	180 Hours	75 Dollars per hr	1 Difficulty Factor	0.8409 5/22/00 togo Factor				

Activity ID: 1CAC71162 *Description:* Tap & drain System 16, Part V Leach *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.258	1.258	26.505	6.815	0	33.320	12.643	45.963
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.503	2.503	0	2.503
				Total for Activity 1CAC71162:		1.258	26.505	6.815	2.503	35.823	12.643	48.466

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	33.11	Hours
Factors	43 Hours	0.77 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	272.58	Hours
Factors	354 Hours	0.77 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	763.53	Hours
Factors	1340 Hours	0.77 Difficulty Factor			0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	134.47	Hours
Factors	236 Hours	0.77 Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	6.16	Hours
Factors	8 Hours	0.77 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	47.74	Hours
Factors	62 Hours	0.77 Difficulty Factor						

A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,814.50	Dollars
Factors	118 Hours	75 Dollars per Hr	0.77 Difficulty Factor					

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,536.62	Dollars
Factors	1536.62 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	966.50	Dollars
Factors	966.497 Dollars							

Activity ID: 1CAC71163 *Description:* Remove proc. piping, System 16, Part V Leach *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1.128	1.128	25.422	7.277	0	32.698	12.126	44.825
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.441	2.441	0	2.441
				Total for Activity 1CAC71163:		1.128	25.422	7.277	2.441	35.139	12.126	47.266

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	565.18	Hours
Factors	734 Hours	0.77 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	220.22	Hours
Factors	286 Hours	0.77 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	174.36	Hours
Factors	306 Hours	0.77 Difficulty Factor						
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	100.10	Hours
Factors	130 Hours	0.77 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	38.50	Hours
Factors	50 Hours	0.77 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	29.63	Hours
Factors	52 Hours	0.77 Difficulty Factor						
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	7,161.00	Dollars
Factors	124 Hours	75 Dollars per hr	0.77 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	115.50	Dollars
Factors	2 Hours	75 Dollars per hr	0.77 Difficulty Factor					

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,498.56	Dollars
Factors	1498.56 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	942.56	Dollars
Factors	942.559 Dollars							

Activity ID: 1CAC71164 *Description:* Finalize closure doc., System 16, Part V Leach *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	71	1.718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92

Total for Activity 1CAC71164:	5	148	1.500	92	1.740	71	1.810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC21** ***Title:*** **Sys 21 - 12N Nitric Acid**

Activity ID: 1CAC71212 *Description:* Tap & drain System 21, 12N Nitric Acid *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	354	354	7,467	1,920	0	9,387	3,644	13,030
	Total for Activity 1CAC71212:					354	7,467	1,920	0	9,387	3,644	13,030

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	9.33	Hours
Factors	43 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	76.79	Hours
Factors	354 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	215.10	Hours
Factors	1340 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
				0.74	Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	37.88	Hours
Factors	236 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
				0.74	Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1.74	Hours
Factors	8 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	13.45	Hours
Factors	62 Hours	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	1,919.72	Dollars
Factors	118 Hours	75	Dollars per Hr	1.62	Difficulty Factor	0.1339	5/22/00 togo Factor	

Activity ID: 1CAC71213 *Description:* Remove proc. piping, System 21, 12N Nitric Acid *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	2,124	2,124	47,869	13,702	0	61,570	23,360	84,931

Total for Activity 1CAC71213:	2.124	47.869	13.702	0	61.570	23.360	84.931

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1,064.23	Hours
Factors	734 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	414.67	Hours
Factors	286 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	328.32	Hours
Factors	306 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
				0.74	Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	188.49	Hours
Factors	130 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	72.49	Hours
Factors	50 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	55.79	Hours
Factors	52 Hours	1.62	Difficulty Factor	0.895	5/22/00 togo Factor			
				0.74	Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	13,484.07	Dollars
Factors	124 Hours	75	Dollars per hr	1.62	Difficulty Factor	0.895	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	217.49	Dollars
Factors	2 Hours	75	Dollars per hr	1.62	Difficulty Factor	0.895	5/22/00 togo Factor	

Activity ID: 1CAC71214 *Description:* Finalize closure doc., Sys. 21, 12N Nitric Acid *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	72	1,719
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	33	33	0	33
Total for Activity 1CAC71214:						5	148	1,500	33	1,681	72	1,752

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	19.44	Dollars
Factors	19.4417 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	13.71	Dollars
Factors	13.7053 Dollars							

WBS No: **1CAC22** ***Title:*** **Sys 22 - HF**

Activity ID: 1CAC71221 *Description:* Plan/Eng prep to drain Sys. 22, HF *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.533	153.505
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.979	3.979	0	3.979
	Total for Activity 1CAC71221:					1.729	46.717	84.255	3.979	134.951	22.533	157.484

Line Item 1 - Planning & Engineering Prep to Drain

BOE

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Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27.525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6.225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11.175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14.580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11.250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13.500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element	Skill	Department	Curve	Quantity	Units

CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,318.54	Dollars
Factors	2318.54 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,660.15	Dollars
Factors	1660.15 Dollars							

Activity ID: 1CAC71222 *Description:* Tap & drain System 22, HF *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	2.711	2.711	57.141	14.691	0	71.832	27.256	99.089
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.396	5.396	0	5.396
	Total for Activity 1CAC71222:					2.711	57.141	14.691	5.396	77.229	27.256	104.485

Line Item 2 - Tap & Drain

BOE

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Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	71.38	Hours
Factors	43 Hours	1.66	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	587.64	Hours
Factors	354 Hours	1.66	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	289.90	Hours
Factors	236 Hours	1.66	Difficulty Factor					
					0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,646.06	Hours
Factors	1340 Hours	1.66	Difficulty Factor					
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	13.28	Hours
Factors	8 Hours	1.66	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	102.92	Hours
Factors	62 Hours	1.66	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	14,691.00	Dollars
Factors	118 Hours	75	Dollars per Hr	1.66	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,312.71	Dollars
Factors	3312.71 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,083.62	Dollars
Factors	2083.62 Dollars							

Activity ID: 1CAC71223 *Description:* Remove proc. piping, Sys. 22, HF *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	2.432	2.432	54.805	15.687	0	70.492	26.142	96.635
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.263	5.263	0	5.263
	Total for Activity 1CAC71223:					2.432	54.805	15.687	5.263	75.755	26.142	101.897

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	1,218.44	Hours
Factors	734 Hours		1.66 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	474.76	Hours
Factors	286 Hours		1.66 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	375.89	Hours
Factors	306 Hours		1.66 Difficulty Factor						
					0.74 Heatcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	215.80	Hours
Factors	130 Hours		1.66 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	83.00	Hours
Factors	50 Hours		1.66 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	63.88	Hours
Factors	52 Hours		1.66 Difficulty Factor						
					0.74 Heatcount Cuts				
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	15,438.00	Dollars
Factors	124 Hours		75 Dollars per hr		1.66 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	249.00	Dollars
Factors	2 Hours		75 Dollars per hr		1.66 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	3,230.66	Dollars
Factors	3230.66 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	2,032.01	Dollars
Factors	2032.01 Dollars								

Activity ID: 1CAC71224 *Description:* Finalize closure doc., Sys. 22, HF *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
					Total for Activity 1CAC71224:	5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	5.00	Hours
Factors	5 Hours		1 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	1,500.00	Dollars
Factors	20 Hours		75 Dollars per Hr		1 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	55.76	Dollars
Factors	55.7588 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	36.13	Dollars
Factors	36.1320 Dollars								

WBS No: **1CAC24** ***Title:*** **Sys 24 - Incinerator Scrubber Rm 149**

Activity ID: 1CAC71241 *Description:* Plan/Eng prep to drain Sys. 24, Incin. Scrubber *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	806	806	21,775	39,271	0	61,046	10,626	71,672
	Total for Activity 1CAC71241:					806	21,775	39,271	0	61,046	10,626	71,672

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	51.27	Hours
Factors	110 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	24.24	Hours
Factors	52 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	15.38	Hours
Factors	33 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	189.24	Hours
Factors	406 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	3.73	Hours
Factors	8 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	30.30	Hours
Factors	65 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	12.58	Hours
Factors	27 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.47	Hours
Factors	1 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.40	Hours
Factors	3 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	133.30	Hours
Factors	286 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	279.66	Hours
Factors	600 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	23.31	Hours
Factors	50 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	41.02	Hours
Factors	88 Hours	1	Difficulty Factor	0.4661	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	12,829.40	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	2,901.47	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	5,208.67	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	6,795.74	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	5,243.63	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	6,292.35	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.4661	5/22/00 togo Factor	

Activity ID: 1CAC71242 *Description:* Tap & drain System 24, Incinerator Scrubber *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	1,421	1,421	29,948	7,700	0	37,647	14,422	52,069

SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.570	1.570	0	1.570
	Total for Activity 1CAC71242:					1.421	29.948	7.700	1.570	39.218	14.422	53.640

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	37.41	Hours
Factors	43 Hours	0.87	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	307.98	Hours
Factors	354 Hours	0.87	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	151.94	Hours
Factors	236 Hours	0.87	Difficulty Factor						
						0.74	Heatcount Cuts		
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	862.69	Hours
Factors	1340 Hours	0.87	Difficulty Factor						
						0.74	Heatcount Cuts		
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	6.96	Hours
Factors	8 Hours	0.87	Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	53.94	Hours
Factors	62 Hours	0.87	Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,699.50	Dollars
Factors	118 Hours	75	Dollars per Hr	0.87	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	933.38	Dollars
Factors	933.38 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	637.01	Dollars
Factors	637.01 Dollars								

Activity ID: 1CAC71243 *Description:* Remove proc. piping, Sys. 24, Incin. Scrubber *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1.274	1.274	28.723	8.222	0	36.945	13.727	50.672
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.407	2.407	0	2.407
	Total for Activity 1CAC71243:					1.274	28.723	8.222	2.407	39.351	13.727	53.079

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	638.58	Hours
Factors	734 Hours	0.87	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	248.82	Hours
Factors	286 Hours	0.87	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	197.00	Hours
Factors	306 Hours	0.87	Difficulty Factor						
						0.74	Heatcount Cuts		

751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	113.10	Hours
Factors	130 Hours	0.87	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	43.50	Hours
Factors	50 Hours	0.87	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	33.48	Hours
Factors	52 Hours	0.87	Difficulty Factor					
					0.74 Headcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	8,091.00	Dollars
Factors	124 Hours	75	Dollars per hr		0.87 Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	130.50	Dollars
Factors	2 Hours	75	Dollars per hr		0.87 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,430.41	Dollars
Factors	1430.41 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	976.22	Dollars
Factors	976.222 Dollars							

Activity ID: 1CAC71244 *Description:* Finalize closure doc., Sys. 24, Incin. Scrubber *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71244:					5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr		1 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC25** ***Title:*** **Sys 25 - HCl Scrubber Rm 180K**

Activity ID: 1CAC71251 *Description:* Plan/Eng prep to drain Sys. 25, HCl Scrubber *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	327	327	8,830	15,924	0	24,754	4,309	29,063
	Total for Activity 1CAC71251:					327	8,830	15,924	0	24,754	4,309	29,063

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access

to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	20.79	Hours
Factors	110 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	9.83	Hours
Factors	52 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	6.24	Hours
Factors	33 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	76.73	Hours
Factors	406 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	1.51	Hours
Factors	8 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	12.28	Hours
Factors	65 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	5.10	Hours
Factors	27 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.19	Hours
Factors	1 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	0.57	Hours
Factors	3 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	54.05	Hours
Factors	286 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	113.40	Hours
Factors	600 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	9.45	Hours
Factors	50 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	16.63	Hours
Factors	88 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5,202.23	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,176.53	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	2,112.07	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	2,755.62	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	2,126.25	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	2,551.50	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	

Activity ID: 1CAC71252 *Description:* Tap & drain System 25, HCl Scrubber *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	341	341	7,194	1,850	0	9,044	3,511	12,555
	Total for Activity 1CAC71252:					341	7,194	1,850	0	9,044	3,511	12,555

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element	Skill	Department	Curve	Quantity	Units

750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	8.99	Hours
Factors	43 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	73.99	Hours
Factors	354 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	36.50	Hours
Factors	236 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
				0.74	Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	207.25	Hours
Factors	1340 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
				0.74	Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1.67	Hours
Factors	8 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	12.96	Hours
Factors	62 Hours	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors			
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	1,849.66	Dollars
Factors	118 Hours	75	Dollars per Hr	0.39	Difficulty Factor	0.5359	5/22/00 togo Factors	

Activity ID: 1CAC71253 *Description:* Remove proc. piping, Sys. 25, HCl Scrubber *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	571	571	12,876	3,685	0	16,561	6,283	22,845
	Total for Activity 1CAC71253:					571	12,876	3,685	0	16,561	6,283	22,845

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	286.26	Hours
Factors	734 Hours	0.39	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	111.54	Hours
Factors	286 Hours	0.39	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.31	Hours
Factors	306 Hours	0.39	Difficulty Factor					
				0.74	Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	50.70	Hours
Factors	130 Hours	0.39	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	19.50	Hours
Factors	50 Hours	0.39	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	15.01	Hours
Factors	52 Hours	0.39	Difficulty Factor					
				0.74	Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	3,627.00	Dollars
Factors	124 Hours	75	Dollars per hr	0.39	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	58.50	Dollars
Factors	2 Hours	75	Dollars per hr	0.39	Difficulty Factor			

Activity ID: 1CAC71254 *Description:* Finalize closure doc., Sys. 25, HCl Scrubber *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	72	1,720
	Total for Activity 1CAC71254:					5	148	1,500	0	1,648	72	1,720

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

WBS No: **1CAC27** ***Title:*** **Sys 27 - 2.0M KOH**

Activity ID: 1CAC71271 *Description:* Plan/Eng prep to drain Sys. 27, 2.0M KOH *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	766	766	20.710	37.350	0	58.060	10.106	68.166
	Total for Activity 1CAC71271:					766	20.710	37.350	0	58.060	10.106	68.166

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	48.76	Hours
Factors	110 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	23.05	Hours
Factors	52 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	14.63	Hours
Factors	33 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	179.98	Hours
Factors	406 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	3.55	Hours
Factors	8 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	28.81	Hours
Factors	65 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	11.97	Hours
Factors	27 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.44	Hours
Factors	1 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.33	Hours
Factors	3 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	126.78	Hours
Factors	286 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	265.98	Hours
Factors	600 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	22.17	Hours
Factors	50 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	39.01	Hours
Factors	88 Hours	1	Difficulty Factor	0.4433	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	12,201.83	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.4433	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	2,759.54	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.4433	5/22/00 togo Factor	

A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	4,953.88	Dollars	
Factors	149 Hours	75 Dollars per hr	1 Difficulty Factor	0.4433 5/22/00 togo Factor					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	6,463.31	Dollars	
Factors	162 Hours	90 Dollars per hr	1 Difficulty Factor	0.4433 5/22/00 togo Factor					
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	4,987.13	Dollars	
Factors	150 Hours	75 Dollars per hr	1 Difficulty Factor	0.4433 5/22/00 togo Factor					
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	5,984.55	Dollars	
Factors	180 Hours	75 Dollars per hr	1 Difficulty Factor	0.4433 5/22/00 togo Factor					

Activity ID: 1CAC71272 *Description:* Tap & drain System 27, 2.0M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.127	1.127	23.752	6.107	0	29.858	11.329	41.188
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.243	2.243	0	2.243
	Total for Activity 1CAC71272:					1.127	23.752	6.107	2.243	32.101	11.329	43.431

Line Item 2 - Tap & Drain

BOE

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The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately
two years ago.  During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems.  The original baseline for
liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access
to the various systems.  The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data
presented herein.
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Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	29.67	Hours
Factors	43 Hours	0.69 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	244.26	Hours
Factors	354 Hours	0.69 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	684.20	Hours
Factors	1340 Hours	0.69 Difficulty Factor			0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	120.50	Hours
Factors	236 Hours	0.69 Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	5.52	Hours
Factors	8 Hours	0.69 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	42.78	Hours
Factors	62 Hours	0.69 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,106.50	Dollars
Factors	118 Hours	75 Dollars per Hr	0.69 Difficulty Factor					

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,376.97	Dollars
Factors	1376.97 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	866.08	Dollars
Factors	866.082 Dollars							

Activity ID: 1CAC71273 *Description:* Remove proc. piping, Sys. 27, 2.0M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1.011	1.011	22.781	6.521	0	29.301	10.866	40.167
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.187	2.187	0	2.187
	Total for Activity 1CAC71273:					1.011	22.781	6.521	2.187	31.489	10.866	42.355

Line Item 3 - PPR

BOE

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The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately
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two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	506.46	Hours
Factors	734 Hours	0.69	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	197.34	Hours
Factors	286 Hours	0.69	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	156.24	Hours
Factors	306 Hours	0.69	Difficulty Factor						
						0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	89.70	Hours
Factors	130 Hours	0.69	Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	34.50	Hours
Factors	50 Hours	0.69	Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	26.55	Hours
Factors	52 Hours	0.69	Difficulty Factor						
						0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	6.417.00	Dollars
Factors	124 Hours	75	Dollars per hr	0.69	Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	103.50	Dollars
Factors	2 Hours	75	Dollars per hr	0.69	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	1,342.87	Dollars
Factors	1342.87 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	844.63	Dollars
Factors	844.631 Dollars								

Activity ID: 1CAC71274 *Description:* Finalize closure doc., Sys. 27, 2.0M KOH *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	71	1.718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71274:					5	148	1.500	92	1.740	71	1.810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	55.76	Dollars
Factors	55.7588 Dollars								

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars

Factors 36.1320 Dollars

WBS No: **1CAC28** ***Title:*** **Sys 28 - 3M KOH**

Activity ID: 1CAC71281 *Description:* Plan/Eng prep to drain Sys. 28, 3M KOH *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.016	1.016	27.465	49.534	0	76.999	13.403	90.401
	Total for Activity 1CAC71281:					1.016	27.465	49.534	0	76.999	13.403	90.401

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	64.67	Hours
Factors	110 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	30.57	Hours
Factors	52 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	19.40	Hours
Factors	33 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	238.69	Hours
Factors	406 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	4.70	Hours
Factors	8 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	38.21	Hours
Factors	65 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	15.87	Hours
Factors	27 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.59	Hours
Factors	1 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.76	Hours
Factors	3 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	168.14	Hours
Factors	286 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	352.74	Hours
Factors	600 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	29.39	Hours
Factors	50 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	51.74	Hours
Factors	88 Hours	1	Difficulty Factor	0.5879	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	16,181.95	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	3,659.68	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	6,569.78	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	8,571.58	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	6,613.88	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	7,936.65	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.5879	5/22/00 togo Factor	

Activity ID: 1CAC71282 *Description:* Tap & drain System 28, 3M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	768	768	16.179	4.160	0	20.338	7.717	28.055
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.528	1.528	0	1.528
	Total for Activity 1CAC71282:					768	16.179	4.160	1.528	21.866	7.717	29.583

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	20.21	Hours
Factors	43 Hours	0.47	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	166.38	Hours
Factors	354 Hours	0.47	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	466.05	Hours
Factors	1340 Hours	0.47	Difficulty Factor			0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	82.08	Hours
Factors	236 Hours	0.47	Difficulty Factor			0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	3.76	Hours
Factors	8 Hours	0.47	Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	29.14	Hours
Factors	62 Hours	0.47	Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	4,159.50	Dollars
Factors	118 Hours	75	Dollars per Hr	0.47	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	937.94	Dollars
Factors	937.937 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	589.94	Dollars
Factors	589.94 Dollars								

Activity ID: 1CAC71283 *Description:* Remove proc. piping, Sys. 28, 3M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	689	689	15.517	4.442	0	19.959	7.402	27.360
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.490	1.490	0	1.490
	Total for Activity 1CAC71283:					689	15.517	4.442	1.490	21.449	7.402	28.850

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	344.98	Hours
Factors	734 Hours	0.47	Difficulty Factor						

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	134.42	Hours
Factors	286 Hours	0.47 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	106.43	Hours
Factors	306 Hours	0.47 Difficulty Factor						
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	61.10	Hours
Factors	130 Hours	0.47 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	23.50	Hours
Factors	50 Hours	0.47 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	18.09	Hours
Factors	52 Hours	0.47 Difficulty Factor						
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	4,371.00	Dollars
Factors	124 Hours	75 Dollars per hr		0.47 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	70.50	Dollars
Factors	2 Hours	75 Dollars per hr		0.47 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	914.71	Dollars
Factors	914.706 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	575.33	Dollars
Factors	575.328 Dollars							

Activity ID: 1CAC71284 *Description:* Finalize closure doc., Sys. 28, 3M KOH *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
					Total for Activity 1CAC71284:	5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75 Dollars per Hr		1 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC29** ***Title:*** **Sys 29 - 6M KOH**

Activity ID: 1CAC71291 *Description:* Plan/Eng prep to drain Sys. 29, 6M KOH *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	327	327	8,830	15,924	0	24,754	4,309	29,063

Total for Activity 1CAC71291:	327	8,830	15,924	0	24,754	4,309	29,063

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	20.79	Hours
Factors	110 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	9.83	Hours
Factors	52 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	6.24	Hours
Factors	33 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	76.73	Hours
Factors	406 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	1.51	Hours
Factors	8 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	12.28	Hours
Factors	65 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	5.10	Hours
Factors	27 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.19	Hours
Factors	1 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	0.57	Hours
Factors	3 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	54.05	Hours
Factors	286 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	113.40	Hours
Factors	600 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	9.45	Hours
Factors	50 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	16.63	Hours
Factors	88 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5,202.23	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,176.53	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	2,112.07	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	2,755.62	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	2,126.25	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	2,551.50	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor	0.189	5/22/00 togo Factor	

Activity ID: 1CAC71292 *Description:* Tap & drain System 29, 6M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	875	875	18,447	4,743	0	23,190	9,002	32,192
Total for Activity 1CAC71292:						875	18,447	4,743	0	23,190	9,002	32,192

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately

two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	23.04	Hours
Factors	43 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	189.71	Hours
Factors	354 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	531.40	Hours
Factors	1340 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
					0.74 Heatcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	93.59	Hours
Factors	236 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
					0.74 Heatcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	4.29	Hours
Factors	8 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	33.23	Hours
Factors	62 Hours		1 Difficulty Factor		0.5359 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	4,742.71	Dollars
Factors	118 Hours		75 Dollars per Hr		1 Difficulty Factor	0.5359 5/22/00 togo Factor			

Activity ID: 1CAC71293 *Description:* Remove proc. piping, Sys. 29, 6M KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.465	1.465	33.015	9.450	0	42.465	15.954	58.420
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.305	1.305	0	1.305
	Total for Activity 1CAC71293:					1.465	33.015	9.450	1.305	43.770	15.954	59.725

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	734.00	Hours
Factors	734 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	286.00	Hours
Factors	286 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	226.44	Hours
Factors	306 Hours		1 Difficulty Factor						
					0.74 Heatcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	130.00	Hours
Factors	130 Hours		1 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	50.00	Hours
Factors	50 Hours		1 Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	38.48	Hours
Factors	52 Hours		1 Difficulty Factor						
					0.74 Heatcount Cuts				
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	9,300.00	Dollars
Factors	124 Hours		75 Dollars per hr		1 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	150.00	Dollars
Factors	2 Hours		75 Dollars per hr		1 Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	775.62	Dollars
Factors	775.619 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	529.34	Dollars
Factors	529.342 Dollars							

Activity ID: 1CAC71294 *Description:* Finalize closure doc., Sys. 29, 6M KOH *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71294:					5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC30** ***Title:*** **Sys 30 - 45% KOH**

Activity ID: 1CAC71301 *Description:* Plan/Eng prep to drain Sys. 30, 45% KOH *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	327	327	8,830	15,924	0	24,754	4,309	29,063
	Total for Activity 1CAC71301:					327	8,830	15,924	0	24,754	4,309	29,063

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	20.79	Hours
Factors	110 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	9.83	Hours
Factors	52 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	6.24	Hours
Factors	33 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	76.73	Hours
Factors	406 Hours	1	Difficulty Factor	0.189	5/22/00 togo Factor			

750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	1.51	Hours
Factors	8 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	12.28	Hours
Factors	65 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	5.10	Hours
Factors	27 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.19	Hours
Factors	1 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	0.57	Hours
Factors	3 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	54.05	Hours
Factors	286 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	113.40	Hours
Factors	600 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	9.45	Hours
Factors	50 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	16.63	Hours
Factors	88 Hours	1 Difficulty Factor		0.189 5/22/00 togo Factor				
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5,202.23	Dollars
Factors	367 Hours	75 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,176.53	Dollars
Factors	83 Hours	75 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	2,112.07	Dollars
Factors	149 Hours	75 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	2,755.62	Dollars
Factors	162 Hours	90 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	2,126.25	Dollars
Factors	150 Hours	75 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	2,551.50	Dollars
Factors	180 Hours	75 Dollars per hr		1 Difficulty Factor	0.189 5/22/00 togo Factor			

Activity ID: 1CAC71302 *Description:* Tap & drain System 30, 45% KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	630	630	13,282	3,415	0	16,697	6,482	23,178
	Total for Activity 1CAC71302:					630	13,282	3,415	0	16,697	6,482	23,178

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	16.59	Hours
Factors	43 Hours	0.72 Difficulty Factor		0.5359 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	136.59	Hours
Factors	354 Hours	0.72 Difficulty Factor		0.5359 5/22/00 togo Factor				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	382.61	Hours
Factors	1340 Hours	0.72 Difficulty Factor		0.5359 5/22/00 togo Factor 0.74 Heatcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	67.38	Hours
Factors	236 Hours	0.72 Difficulty Factor		0.5359 5/22/00 togo Factor 0.74 Heatcount Cuts				

751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	3.09	Hours
Factors	8 Hours	0.72	Difficulty Factor	0.5359	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	23.92	Hours
Factors	62 Hours	0.72	Difficulty Factor	0.5359	5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	3,414.76	Dollars
Factors	118 Hours	75	Dollars per Hr	0.72	Difficulty Factor	0.5359	5/22/00 togo Factor	

Activity ID: 1CAC71303 *Description:* Remove proc. piping, Sys. 30, 45% KOH *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1.055	1.055	23.771	6.804	0	30.575	11.600	42.175
	Total for Activity 1CAC71303:					1.055	23.771	6.804	0	30.575	11.600	42.175

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	528.48	Hours
Factors	734 Hours	0.72	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	205.92	Hours
Factors	286 Hours	0.72	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	163.04	Hours
Factors	306 Hours	0.72	Difficulty Factor					
				0.74	Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	93.60	Hours
Factors	130 Hours	0.72	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	36.00	Hours
Factors	50 Hours	0.72	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	27.71	Hours
Factors	52 Hours	0.72	Difficulty Factor					
				0.74	Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,696.00	Dollars
Factors	124 Hours	75	Dollars per hr	0.72	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	108.00	Dollars
Factors	2 Hours	75	Dollars per hr	0.72	Difficulty Factor			

Activity ID: 1CAC71304 *Description:* Finalize closure doc., Sys. 30, 45% KOH *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92
	Total for Activity 1CAC71304:					5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC34** ***Title:*** **Sys 34 - B771/B774 Acid Waste Lines**
Activity ID: 1CAC71341 *Description:* Plan/Eng prep to drain Sys. 34, Acid Waste Lines *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	413	413	11.161	20.129	0	31.289	5.446	36.736
	Total for Activity 1CAC71341:					413	11.161	20.129	0	31.289	5.446	36.736

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	26.28	Hours
Factors	110 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	12.42	Hours
Factors	52 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	7.88	Hours
Factors	33 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	96.99	Hours
Factors	406 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	1.91	Hours
Factors	8 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	15.53	Hours
Factors	65 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	6.45	Hours
Factors	27 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.24	Hours
Factors	1 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	0.72	Hours
Factors	3 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	68.33	Hours
Factors	286 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	143.34	Hours
Factors	600 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	11.95	Hours
Factors	50 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	21.02	Hours
Factors	88 Hours	1	Difficulty Factor	0.2389	5/22/00 togo Factor			
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,575.72	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor	0.2389	5/22/00 togo Factor	
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,487.15	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor	0.2389	5/22/00 togo Factor	
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	2,669.71	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor	0.2389	5/22/00 togo Factor	

A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	3,483.16	Dollars
Factors	162 Hours		90 Dollars per hr		1 Difficulty Factor		0.2389 5/22/00 togo Factor		
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	2,687.63	Dollars
Factors	150 Hours		75 Dollars per hr		1 Difficulty Factor		0.2389 5/22/00 togo Factor		
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project		Linear	3,225.15	Dollars
Factors	180 Hours		75 Dollars per hr		1 Difficulty Factor		0.2389 5/22/00 togo Factor		

Activity ID: 1CAC71342 *Description:* Tap & drain System 34, Acid Waste Lines *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.437	1.437	30.292	7.788	0	38.080	14.782	52.862
	Total for Activity 1CAC71342:					1.437	30.292	7.788	0	38.080	14.782	52.862

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	37.84	Hours
Factors	43 Hours		0.88 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	311.52	Hours
Factors	354 Hours		0.88 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	153.68	Hours
Factors	236 Hours		0.88 Difficulty Factor						
					0.74 Heatcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	872.61	Hours
Factors	1340 Hours		0.88 Difficulty Factor						
					0.74 Heatcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	7.04	Hours
Factors	8 Hours		0.88 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	54.56	Hours
Factors	62 Hours		0.88 Difficulty Factor						
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,788.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.88 Difficulty Factor				

Activity ID: 1CAC71343 *Description:* Remove proc. piping, Sys. 34, Acid Waste Lines *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1.289	1.289	29.053	8.316	0	37.369	14.178	51.548
	Total for Activity 1CAC71343:					1.289	29.053	8.316	0	37.369	14.178	51.548

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	645.92	Hours
Factors	734 Hours		0.88 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	251.68	Hours
Factors	286 Hours		0.88 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	199.27	Hours
Factors	306 Hours		0.88 Difficulty Factor						
					0.74 Heatcount Cuts				

751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	114.40	Hours
Factors	130 Hours	0.88	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	44.00	Hours
Factors	50 Hours	0.88	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	33.86	Hours
Factors	52 Hours	0.88	Difficulty Factor					
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	8,184.00	Dollars
Factors	124 Hours	75	Dollars per hr		0.88 Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	132.00	Dollars
Factors	2 Hours	75	Dollars per hr		0.88 Difficulty Factor			

Activity ID: 1CAC71344 *Description:* Finalize closure doc., Sys. 34, Acid Waste Lines *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	72	1,720
	Total for Activity 1CAC71344:					5	148	1,500	0	1,648	72	1,720

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr		1 Difficulty Factor			

WBS No: **1CAC35** ***Title:*** **Sys 35 - B771/B774 Caustic Waste Line**

Activity ID: 1CAC71351 *Description:* Plan/Eng prep to drain Sys. 35, Caustic Waste *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.115	1.115	30.128	54.336	0	84.464	14.702	99.166
	Total for Activity 1CAC71351:					1.115	30.128	54.336	0	84.464	14.702	99.166

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	70.94	Hours
Factors	110 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	33.53	Hours
Factors	52 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	21.28	Hours
Factors	33 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	261.83	Hours
Factors	406 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	5.16	Hours
Factors	8 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	41.92	Hours
Factors	65 Hours	1	Difficulty Factor		0.6449 5/22/00 togo Factor			

750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	17.41	Hours
Factors	27 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.64	Hours
Factors	1 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.93	Hours
Factors	3 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	184.44	Hours
Factors	286 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	386.94	Hours
Factors	600 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	32.25	Hours
Factors	50 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	56.75	Hours
Factors	88 Hours	1 Difficulty Factor	0.6449 5/22/00 togo Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	17,750.87	Dollars
Factors	367 Hours	75 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	4,014.50	Dollars
Factors	83 Hours	75 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	7,206.76	Dollars
Factors	149 Hours	75 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	9,402.64	Dollars
Factors	162 Hours	90 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	7,255.13	Dollars
Factors	150 Hours	75 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	8,706.15	Dollars
Factors	180 Hours	75 Dollars per hr	1 Difficulty Factor	0.6449 5/22/00 togo Factor				

Activity ID: 1CAC71352 *Description:* Tap & drain System 35, Caustic Waste Lines *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.209	1.209	25.473	6.549	0	32.022	12.423	44.445
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	59	59	0	59
	Total for Activity 1CAC71352:					1.209	25.473	6.549	59	32.080	12.423	44.504

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	31.82	Hours
Factors	43 Hours	0.74 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	261.96	Hours
Factors	354 Hours	0.74 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	733.78	Hours
Factors	1340 Hours	0.74 Difficulty Factor	0.74 Heatcount Cuts					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	129.23	Hours
Factors	236 Hours	0.74 Difficulty Factor	0.74 Heatcount Cuts					
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	5.92	Hours
Factors	8 Hours	0.74 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	45.88	Hours
Factors	62 Hours	0.74 Difficulty Factor						

A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,549.00	Dollars
Factors	118 Hours	75	Dollars per Hr	0.74	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	34.90	Dollars
Factors	34.8971 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	23.82	Dollars
Factors	23.8165 Dollars							

Activity ID: 1CAC71353 *Description:* Remove proc. piping, Sys.35, Caustic Waste Lines *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.084	1.084	24.431	6.993	0	31.424	11.778	43.202
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.202	1.202	0	1.202
	Total for Activity 1CAC71353:					1.084	24.431	6.993	1.202	32.627	11.778	44.405

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	543.16	Hours
Factors	734 Hours	0.74	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	211.64	Hours
Factors	286 Hours	0.74	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	167.57	Hours
Factors	306 Hours	0.74	Difficulty Factor					
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	96.20	Hours
Factors	130 Hours	0.74	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	37.00	Hours
Factors	50 Hours	0.74	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	28.48	Hours
Factors	52 Hours	0.74	Difficulty Factor					
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,882.00	Dollars
Factors	124 Hours	75	Dollars per hr	0.74	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	111.00	Dollars
Factors	2 Hours	75	Dollars per hr	0.74	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	714.69	Dollars
Factors	714.688 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	487.76	Dollars
Factors	487.758 Dollars							

Activity ID: 1CAC71354 *Description:* Finalize closure doc., System 35, Caustic Waste *Cost Risk* 2 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	71	1.718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92

Total for Activity 1CAC71354:	5	148	1.500	92	1.740	71	1.810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC37** ***Title:*** **Sys 37 - House Vacuum**

Activity ID: 1CAC71371 *Description:* Plan/Eng prep to drain Sys. 37, House Vacuum 12 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1,684	1,684	45,498	82,056	0	127,554	21,968	149,522
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3,526	3,526	0	3,526
Total for Activity 1CAC71371:						1,684	45,498	82,056	3,526	131,080	21,968	153,048

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	107.13	Hours
Factors	110 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	50.64	Hours
Factors	52 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	32.14	Hours
Factors	33 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	395.40	Hours
Factors	406 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	7.79	Hours
Factors	8 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	63.30	Hours
Factors	65 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	26.30	Hours
Factors	27 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.97	Hours
Factors	1 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	2.92	Hours
Factors	3 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	278.54	Hours
Factors	286 Hours	1	Difficulty Factor	0.9739	5/22/00 togo Factor			

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	584.34	Hours
Factors	600 Hours	1 Difficulty Factor	0.9739 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	48.69	Hours
Factors	50 Hours	1 Difficulty Factor	0.9739 5/22/00 togo Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	85.70	Hours
Factors	88 Hours	1 Difficulty Factor	0.9739 5/22/00 togo Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	26,806.60	Dollars
Factors	367 Hours	75 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,062.53	Dollars
Factors	83 Hours	75 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	10,883.33	Dollars
Factors	149 Hours	75 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,199.46	Dollars
Factors	162 Hours	90 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	10,956.38	Dollars
Factors	150 Hours	75 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,147.65	Dollars
Factors	180 Hours	75 Dollars per hr	1 Difficulty Factor	0.9739 5/22/00 togo Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,054.64	Dollars
Factors	2054.64 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,471.18	Dollars
Factors	1471.18 Dollars							

Activity ID: 1CAC71372 *Description:* Tap & drain System 37, House Vacuum 12 *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	13.115	13.115	276.413	71.066	0	347.478	131.849	479.327
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	26.104	26.104	0	26.104
	Total for Activity 1CAC71372:					13.115	276.413	71.066	26.104	373.582	131.849	505.431

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	345.29	Hours
Factors	43 Hours	8.03 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	2,842.62	Hours
Factors	354 Hours	8.03 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	7,962.55	Hours
Factors	1340 Hours	8.03 Difficulty Factor						
					0.74 Heatcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,402.36	Hours
Factors	236 Hours	8.03 Difficulty Factor						
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	64.24	Hours
Factors	8 Hours	8.03 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	497.86	Hours
Factors	62 Hours	8.03 Difficulty Factor						

A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	71,065.50	Dollars
Factors	118 Hours	75	Dollars per Hr	8.03	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	16,024.75	Dollars
Factors	16024.8 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	10,079.18	Dollars
Factors	10079.2 Dollars							

Activity ID: 1CAC71373 *Description:* Remove proc. piping, Sys. 37, House Vacuum 12 *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	11.763	11.763	265.113	75.884	0	340.997	126.459	467.456
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	25.457	25.457	0	25.457
	Total for Activity 1CAC71373:					11.763	265.113	75.884	25.457	366.454	126.459	492.913

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	5,894.02	Hours
Factors	734 Hours	8.03	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	2,296.58	Hours
Factors	286 Hours	8.03	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,818.31	Hours
Factors	306 Hours	8.03	Difficulty Factor					
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1,043.90	Hours
Factors	130 Hours	8.03	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	401.50	Hours
Factors	50 Hours	8.03	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	308.99	Hours
Factors	52 Hours	8.03	Difficulty Factor					
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	74,679.00	Dollars
Factors	124 Hours	75	Dollars per hr	8.03	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,204.50	Dollars
Factors	2 Hours	75	Dollars per hr	8.03	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	15,627.85	Dollars
Factors	15627.9 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	9,829.54	Dollars
Factors	9829.55 Dollars							

Activity ID: 1CAC71374 *Description:* Finalize closure doc., Sys. 37, House Vacuum 12 *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1.500	0	1.648	71	1.718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92

Total for Activity 1CAC71374:	5	148	1,500	92	1,740	71	1,810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC38** ***Title:*** **Sys 38 - Freon 12 Rm 114**

Activity ID: 1CAC71381 *Description:* Plan/Eng prep to drain Sys. 38, Freon 12, Rm 114 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	842	842	22,749	41,028	0	63,777	11,061	74,838
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	607	607	0	607
Total for Activity 1CAC71381:						842	22,749	41,028	607	64,383	11,061	75,445

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	53.56	Hours
Factors	110 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	25.32	Hours
Factors	52 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	16.07	Hours
Factors	33 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	197.70	Hours
Factors	406 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	3.90	Hours
Factors	8 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	31.65	Hours
Factors	65 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	13.15	Hours
Factors	27 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.49	Hours
Factors	1 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.46	Hours
Factors	3 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	139.27	Hours
Factors	286 Hours	0.5	Difficulty Factor	0.9739	5/22/00 togo Factor			

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	292.17	Hours
Factors	600 Hours	0.5 Difficulty Factor		0.9739 5/22/00 togo Factor				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	24.35	Hours
Factors	50 Hours	0.5 Difficulty Factor		0.9739 5/22/00 togo Factor				
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	42.85	Hours
Factors	88 Hours	0.5 Difficulty Factor		0.9739 5/22/00 togo Factor				
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	13,403.30	Dollars
Factors	367 Hours	75 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	3,031.26	Dollars
Factors	83 Hours	75 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	5,441.67	Dollars
Factors	149 Hours	75 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	7,099.73	Dollars
Factors	162 Hours	90 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	5,478.19	Dollars
Factors	150 Hours	75 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	6,573.83	Dollars
Factors	180 Hours	75 Dollars per hr		0.5 Difficulty Factor	0.9739 5/22/00 togo Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	353.49	Dollars
Factors	353.486 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	253.11	Dollars
Factors	253.107 Dollars							

Activity ID: 1CAC71382 *Description:* Tap & drain System 38, Freon 12, Rm 114 *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	800	800	16,867	4,337	0	21,204	8,046	29,249
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1,593	1,593	0	1,593
	Total for Activity 1CAC71382:					800	16,867	4,337	1,593	22,796	8,046	30,842

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	21.07	Hours
Factors	43 Hours	0.49 Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	173.46	Hours
Factors	354 Hours	0.49 Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	485.88	Hours
Factors	1340 Hours	0.49 Difficulty Factor		0.74 Heatcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	85.57	Hours
Factors	236 Hours	0.49 Difficulty Factor		0.74 Heatcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	3.92	Hours
Factors	8 Hours	0.49 Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	30.38	Hours
Factors	62 Hours	0.49 Difficulty Factor						

A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	4,336.50	Dollars
Factors	118 Hours	75	Dollars per Hr	0.49	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	977.85	Dollars
Factors	977.849 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	615.04	Dollars
Factors	615.044 Dollars							

Activity ID: 1CAC71383 *Description:* Remove proc. piping, System 38, Freon 12, Rm 114 *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	718	718	16,178	4,631	0	20,808	7,717	28,525
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1,553	1,553	0	1,553
					Total for Activity 1CAC71383:	718	16,178	4,631	1,553	22,361	7,717	30,078

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	359.66	Hours
Factors	734 Hours	0.49	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	140.14	Hours
Factors	286 Hours	0.49	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	110.96	Hours
Factors	306 Hours	0.49	Difficulty Factor					
					0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	63.70	Hours
Factors	130 Hours	0.49	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	24.50	Hours
Factors	50 Hours	0.49	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	18.86	Hours
Factors	52 Hours	0.49	Difficulty Factor					
					0.74 Heatcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	4,557.00	Dollars
Factors	124 Hours	75	Dollars per hr	0.49	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	73.50	Dollars
Factors	2 Hours	75	Dollars per hr	0.49	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	953.63	Dollars
Factors	953.63 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	599.81	Dollars
Factors	599.810 Dollars							

Activity ID: 1CAC71384 *Description:* Finalize closure documents, Sys. 38, Freon 12 *Cost Risk* 2 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4	Closure Documentation	1.00	each	EE	5	5	148	1,500	0	1,648	71	1,718
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	92	92	0	92

Total for Activity 1CAC71384:	5	148	1.500	92	1.740	71	1.810

Line Item 4 - Closure Documentation

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	5.00	Hours
Factors	5 Hours	1	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,500.00	Dollars
Factors	20 Hours	75	Dollars per Hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	55.76	Dollars
Factors	55.7588 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36.13	Dollars
Factors	36.1320 Dollars							

WBS No: **1CAC39** ***Title:*** **Sys 39 - Process Steam**

Activity ID: 1CAC71391 *Description:* Plan/Eng prep to drain Sys. 39, Process Steam *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1,729	1,729	46,717	84,255	0	130,972	22,284	153,256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8,125	8,125	0	8,125
Total for Activity 1CAC71391:						1,729	46,717	84,255	8,125	139,097	22,284	161,381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC71392 *Description:* Tap & drain System 39, Process Steam *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.364	1.364	29.033	9.868	0	38.901	13.849	52.750
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.873	2.873	0	2.873
	Total for Activity 1CAC71392:					1.364	29.033	9.868	2.873	41.774	13.849	55.623

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	47.94	Hours
Factors	43 Hours	2.23	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	394.71	Hours
Factors	354 Hours	2.23	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	717.17	Hours
Factors	1340 Hours	2.23	Difficulty Factor					
				0.24	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	126.31	Hours
Factors	236 Hours	2.23	Difficulty Factor					
				0.24	Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	8.92	Hours
Factors	8 Hours	2.23	Difficulty Factor					
				0.5	Headcount Cuts			

751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	69.13	Hours
Factors	62 Hours		2.23 Difficulty Factor						
					0.5 Headcount Cuts				
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	9,867.75	Dollars
Factors	118 Hours		75 Dollars per Hr		2.23 Difficulty Factor				
					0.5 Headcount Cuts				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,763.52	Dollars
Factors	1763.52 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,109.21	Dollars
Factors	1109.21 Dollars							

Activity ID: 1CAC71393 *Description:* Remove proc. piping, System 39, Process Steam *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	1,530	1,530	34,504	10,537	0	45,040	16,458	61,499
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3,349	3,349	0	3,349
					Total for Activity 1CAC71393:	1,530	34,504	10,537	3,349	48,390	16,458	64,848

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	818.41	Hours
Factors	734 Hours		2.23 Difficulty Factor					
					0.5 Headcount Cuts			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	318.89	Hours
Factors	286 Hours		2.23 Difficulty Factor					
					0.5 Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	163.77	Hours
Factors	306 Hours		2.23 Difficulty Factor					
					0.24 Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	144.95	Hours
Factors	130 Hours		2.23 Difficulty Factor					
					0.5 Headcount Cuts			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	55.75	Hours
Factors	50 Hours		2.23 Difficulty Factor					
					0.5 Headcount Cuts			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	27.83	Hours
Factors	52 Hours		2.23 Difficulty Factor					
					0.24 Headcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	10,369.50	Dollars
Factors	124 Hours		75 Dollars per hr		2.23 Difficulty Factor			
					0.5 Headcount Cuts			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	167.25	Dollars
Factors	2 Hours		75 Dollars per hr		2.23 Difficulty Factor			
					0.5 Headcount Cuts			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	2,056.01	Dollars
Factors	2056.01 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	1,293.18	Dollars
Factors	1293.18 Dollars								

WBS No: **1CAC40** ***Title:*** **Sys 40 - Process Steam Condensate**
Activity ID: 1CAC71401 *Description:* Plan/Eng prep to drain Sys.40, Proc Stm Condens8 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
					Total for Activity 1CAC71401:	1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project		Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried		Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor						
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor						
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor				
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor				
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project		Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor				

A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours		75 Dollars per hr		1 Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours		75 Dollars per hr		1 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC71402 *Description:* Tap & drain Sys. 40, Process Steam Condensate *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	985	985	20.961	7.124	0	28.086	9.999	38.084
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.074	2.074	0	2.074
	Total for Activity 1CAC71402:					985	20.961	7.124	2.074	30.160	9.999	40.158

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	34.62	Hours
Factors	43 Hours		1.61 Difficulty Factor		0.5 Headcount Cuts			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	284.97	Hours
Factors	354 Hours		1.61 Difficulty Factor		0.5 Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	517.78	Hours
Factors	1340 Hours		1.61 Difficulty Factor		0.24 Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	91.19	Hours
Factors	236 Hours		1.61 Difficulty Factor		0.24 Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	6.44	Hours
Factors	8 Hours		1.61 Difficulty Factor		0.5 Headcount Cuts			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	49.91	Hours
Factors	62 Hours		1.61 Difficulty Factor		0.5 Headcount Cuts			
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	7,124.25	Dollars
Factors	118 Hours		75 Dollars per Hr		1.61 Difficulty Factor			
					0.5 Headcount Cuts			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,273.22	Dollars
Factors	1273.22 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	800.82	Dollars
Factors	800.822 Dollars							

Activity ID: 1CAC71403 *Description:* Remove proc. piping, Sys.40, Proc Stm Condensate *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.104	1.104	24.911	7.607	0	32.518	10.264	42.782
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4.329	4.329	0	4.329
	Total for Activity 1CAC71403:					1.104	24.911	7.607	4.329	36.847	10.264	47.112

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	590.87	Hours
Factors	734 Hours	1.61	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	230.23	Hours
Factors	286 Hours	1.61	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	118.24	Hours
Factors	306 Hours	1.61	Difficulty Factor					
				0.24	Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	104.65	Hours
Factors	130 Hours	1.61	Difficulty Factor					
				0.5	Headcount Cuts			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	40.25	Hours
Factors	50 Hours	1.61	Difficulty Factor					
				0.5	Headcount Cuts			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	20.09	Hours
Factors	52 Hours	1.61	Difficulty Factor					
				0.24	Headcount Cuts			
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	7,486.50	Dollars
Factors	124 Hours	75	Dollars per hr	1.61	Difficulty Factor			
				0.5	Headcount Cuts			
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	120.75	Dollars
Factors	2 Hours	75	Dollars per hr	1.61	Difficulty Factor			
				0.5	Headcount Cuts			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,873.46	Dollars
Factors	2873.46 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,455.83	Dollars
Factors	1455.83 Dollars							

WBS No: **1CAC41** ***Title:*** **Sys 41 - Process Water**

Activity ID: 1CAC71411 *Description:* Plan/Eng prep to drain Sys. 41, Process Water *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC71411:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC71412 *Description:* Tap & drain System 41, Process Water *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
2	Tap & Drain	1.00	each	EE	1.034	1.034	22.003	7.478	0	29.481	10.495	39.976
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.177	2.177	0	2.177
	Total for Activity 1CAC71412:					1.034	22.003	7.478	2.177	31.658	10.495	42.154

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	36.34	Hours
Factors	43 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	299.13	Hours
Factors	354 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	95.72	Hours
Factors	236 Hours		1.69 Difficulty Factor		0.24 Headcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	543.50	Hours
Factors	1340 Hours		1.69 Difficulty Factor		0.24 Headcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	6.76	Hours
Factors	8 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	52.39	Hours
Factors	62 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,478.25	Dollars
Factors	118 Hours		75 Dollars per Hr		1.69 Difficulty Factor				
					0.5 Headcount Cuts				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	1,336.48	Dollars
Factors	1336.48 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	840.61	Dollars
Factors	840.615 Dollars								

Activity ID: 1CAC71413 *Description:* Remove proc. piping, Sys. 41, Process Water *Cost Risk* 4 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
3	PPR	1.00	each	EE	1.159	1.159	26.149	7.985	0	34.134	12.473	46.607
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.538	2.538	0	2.538
	Total for Activity 1CAC71413:					1.159	26.149	7.985	2.538	36.672	12.473	49.145

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element	Skill	Department	Curve	Quantity	Units

750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	620.23	Hours
Factors	734 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	241.67	Hours
Factors	286 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	124.11	Hours
Factors	306 Hours		1.69 Difficulty Factor		0.24 Headcount Cuts				
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	109.85	Hours
Factors	130 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	42.25	Hours
Factors	50 Hours		1.69 Difficulty Factor		0.5 Headcount Cuts				
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	21.09	Hours
Factors	52 Hours		1.69 Difficulty Factor		0.24 Headcount Cuts				
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,858.50	Dollars
Factors	124 Hours		75 Dollars per hr		1.69 Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	0.5 Headcount Cuts Building 771 Closure Project		Linear	126.75	Dollars
Factors	2 Hours		75 Dollars per hr		1.69 Difficulty Factor				
					0.5 Headcount Cuts				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,558.14	Dollars
Factors	1558.14 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	980.03	Dollars
Factors	980.034 Dollars							

WBS No: **1CAC42** ***Title:*** **Sys 42 - Process Cool Wtr Spply & Retur**

Activity ID: 1CAC71421 *Description:* Plan/Eng prep to drain Sys 42 Process Cool'g H2O *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC71421:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor					

750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC71422 *Description:* Tap & drain System 42, Process Cooling Water *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	2.325	2.325	49.474	16.815	0	66.289	22.917	89.206
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.532	5.532	0	5.532
					Total for Activity 1CAC71422:	2.325	49.474	16.815	5.532	71.821	22.917	94.739

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	81.70	Hours
Factors	43 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	672.60	Hours
Factors	354 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	215.23	Hours
Factors	236 Hours	3.8	Difficulty Factor					
				0.24	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,222.08	Hours
Factors	1340 Hours	3.8	Difficulty Factor					
				0.24	Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	15.20	Hours
Factors	8 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	117.80	Hours
Factors	62 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	16,815.00	Dollars
Factors	118 Hours	75	Dollars per Hr	3.8	Difficulty Factor			
				0.5	Headcount Cuts			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,417.38	Dollars
Factors	3417.38 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,115.00	Dollars
Factors	2115.00 Dollars							

Activity ID: 1CAC71423 *Description:* Remove proc. piping, Sys 42, Process Cool'g H2O *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
3	PPR	1.00	each	EE	2.606	2.606	58.796	17.955	0	76.751	24.921	101.671
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	9.348	9.348	0	9.348
	Total for Activity 1CAC71423:					2.606	58.796	17.955	9.348	86.099	24.921	111.020

Line Item 3 - PPR

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	1,394.60	Hours
Factors	734 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	543.40	Hours
Factors	286 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	279.07	Hours
Factors	306 Hours	3.8	Difficulty Factor					
				0.24	Headcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	247.00	Hours
Factors	130 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	95.00	Hours
Factors	50 Hours	3.8	Difficulty Factor					
				0.5	Headcount Cuts			

751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	47.42	Hours
Factors	52 Hours		3.8 Difficulty Factor		0.24 Headcount Cuts				
A57	LATA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	17,670.00	Dollars
Factors	124 Hours		75 Dollars per hr		3.8 Difficulty Factor				
					0.5 Headcount Cuts				
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	285.00	Dollars
Factors	2 Hours		75 Dollars per hr		3.8 Difficulty Factor				
					0.5 Headcount Cuts				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	6,136.04	Dollars
Factors	6136.04 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,212.03	Dollars
Factors	3212.03 Dollars							

WBS No: **1CAC90** ***Title:*** **Sys 90 - Rm 212, 250-51, GB 5 & 355, T20**

Activity ID: 1CAC74901 *Description:* Plan/Eng prep to drain System 90, Bldg 774 *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC74901:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours		1 Difficulty Factor					

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC74902 *Description:* Tap & drain System 90, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.829	1.829	38.553	9.912	0	48.465	18.390	66.855
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.641	3.641	0	3.641
	Total for Activity 1CAC74902:					1.829	38.553	9.912	3.641	52.106	18.390	70.496

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	48.16	Hours
Factors	43 Hours	1.12	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	396.48	Hours
Factors	354 Hours	1.12	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	195.60	Hours
Factors	236 Hours	1.12	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,110.59	Hours
Factors	1340 Hours		1.12 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	8.96	Hours
Factors	8 Hours		1.12 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	69.44	Hours
Factors	62 Hours		1.12 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	9,912.00	Dollars
Factors	118 Hours		75 Dollars per Hr		1.12 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,235.08	Dollars
Factors	2235.08 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,405.81	Dollars
Factors	1405.81 Dollars							

Activity ID: 1CAC74905 *Description:* Sludge removal - System 90 *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
5	Sys 90 - Sludge Removal	1.00	each		2.396	2.396	55.040	0	0	55.040	20.834	75.874
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.062	10.062	0	10.062
	Total for Activity 1CAC74905:					2.396	55.040	0	10.062	65.102	20.834	85.936

Line Item 5 - Sys 90 - Sludge Removal

BOE

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B774 Sludge Removal – For a 6 foot section (3 feet in each direction from the port).

1. Planning – 1 “hot” IWCP per superset. (Separate from this estimate)
2. Erect Scaffold – 1 tube & knuckle scaffold per port.  Crew-2 D&D Ops for 9 hours each; 1 RCT for 2.5 hours.
3. Set up equipment at each port.  Crew 2 D&D Ops for 4.5 hours each
4. ASSUME containment is set up for size reduction, not part of this estimate.
5. Install access port near sludge line 3’ diam. ? 9.5’ of cutting @ 4” per minute ? 0.5 hours for cutting; bolt flange cover into place ? 1 hour.  Crew – 5
D&D Ops; 1 RCT; 1 Foreman
6. Examine tank interior; probe sludge below the port; assess adequacy of the work plan.    Crew – 5 D&D Ops; 1 RCT; 1 Foreman.   ? 0.5 hour.
7. Remove sludge from tank using a method to be determined  after the results of tank sampling and characterization.  Sludge will be extracted at an average
rate of 6 gallons per hour.

? For TRU sludge the workers will be in SBA suits.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

? For Low Level sludge, no breathing apparatus is required.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

8.  Complete the same procedure (steps 5 through 7) for each port placed into the tank.
9.  After all the sludge has been removed from the tank, insert a steam cleaning wand into each port and steam clean the tank walls. . Crew – 5 D&D Ops; 1
RCT; 1 Foreman for 0.5 hours per port.
10.  Vacuum all condensate and residue sludge out of the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
11.  Close all access ports on the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
12.  Clean up the area surrounding each port. . Crew – 2 D&D Ops; 1 RCT for 0.5 hours per port.
13.  Remove the scaffold(s). (Removal is part of the scaffold set-up estimate.)


 A5C Procurement

Procure  hydrolasing rig (10,000 psi)  @ $100,000 each
Procure  High-power vacuum rig         @   $50,000 each.

For superset 90 buy 1 of each
For superset 91 buy 1 of each
For superset 95 buy 3 of each
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	1,650.00	Hours
Factors	1650 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	315.00	Hours
Factors	315 Hours								
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	362.00	Hours
Factors	362 Hours								
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	69.00	Hours
Factors	69 Hours								

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	6,946.24	Dollars
Factors	6946.24 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	3,115.50	Dollars
Factors	3115.5 Dollars								

WBS No: **1CAC91** ***Title:*** **Sys 91 - Rooms 201 - 203**

Activity ID: 1CAC74911 *Description:* Plan/Eng prep to drain Sys. 91 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC74911:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project		Linear	1.00	Hours
Factors	1 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried		Linear	3.00	Hours
Factors	3 Hours		1 Difficulty Factor						

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC74912 *Description:* Tap & drain System 91, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.437	1.437	30.292	7.788	0	38.080	14.449	52.529
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.861	2.861	0	2.861
	Total for Activity 1CAC74912:					1.437	30.292	7.788	2.861	40.941	14.449	55.390

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	37.84	Hours
Factors	43 Hours	0.88	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	311.52	Hours
Factors	354 Hours	0.88	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	872.61	Hours
Factors	1340 Hours	0.88	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	153.68	Hours
Factors	236 Hours		0.88 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	7.04	Hours
Factors	8 Hours		0.88 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	54.56	Hours
Factors	62 Hours		0.88 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	7,788.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.88 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,756.14	Dollars
Factors	1756.14 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,104.57	Dollars
Factors	1104.57 Dollars							

Activity ID: 1CAC74915 *Description:* Sludge removal - System 91 *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
5	Sys 91 - Sludge Removal	1.00	each		3.384	3.384	77.739	0	0	77.739	30.655	108.394
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	12.917	12.917	0	12.917
	Total for Activity 1CAC74915:					3.384	77.739	0	12.917	90.656	30.655	121.311

Line Item 5 - Sys 91 - Sludge Removal

BOE

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B774 Sludge Removal – For a 6 foot section (3 feet in each direction from the port).

1. Planning – 1 “hot” IWCP per superset. (Separate from this estimate)
2. Erect Scaffold – 1 tube & knuckle scaffold per port.  Crew-2 D&D Ops for 9 hours each; 1 RCT for 2.5 hours.
3. Set up equipment at each port.  Crew 2 D&D Ops for 4.5 hours each
4. ASSUME containment is set up for size reduction, not part of this estimate.
5. Install access port near sludge line 3’ diam. ? 9.5’ of cutting @ 4” per minute ? 0.5 hours for cutting; bolt flange cover into place ? 1 hour.  Crew – 5
D&D Ops; 1 RCT; 1 Foreman
6. Examine tank interior; probe sludge below the port; assess adequacy of the work plan.    Crew – 5 D&D Ops; 1 RCT; 1 Foreman.   ? 0.5 hour.
7. Remove sludge from tank using a method to be determined  after the results of tank sampling and characterization.  Sludge will be extracted at an average
rate of 6 gallons per hour.

? For TRU sludge the workers will be in SBA suits.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

? For Low Level sludge, no breathing apparatus is required.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

8.  Complete the same procedure (steps 5 through 7) for each port placed into the tank.
9.  After all the sludge has been removed from the tank, insert a steam cleaning wand into each port and steam clean the tank walls. . Crew – 5 D&D Ops; 1
RCT; 1 Foreman for 0.5 hours per port.
10.  Vacuum all condensate and residue sludge out of the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
11.  Close all access ports on the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
12.  Clean up the area surrounding each port. . Crew – 2 D&D Ops; 1 RCT for 0.5 hours per port.
13.  Remove the scaffold(s). (Removal is part of the scaffold set-up estimate.)


 A5C Procurement

Procure  hydrolasing rig (10,000 psi)  @ $100,000 each
Procure  High-power vacuum rig         @   $50,000 each.

For superset 90 buy 1 of each
For superset 91 buy 1 of each
For superset 95 buy 3 of each
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	2,332.00	Hours
Factors	2332 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	443.00	Hours
Factors	443 Hours								
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	512.00	Hours
Factors	512 Hours								
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	97.00	Hours
Factors	97 Hours								

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	8,835.03	Dollars
Factors	8835.03 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	4,081.64	Dollars
Factors	4081.64 Dollars								

WBS No: **1CAC92** ***Title:*** **Sys 92 - Room 210**

Activity ID: 1CAC74921 *Description:* Plan/Eng prep to drain Sys. 92. *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC74921:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project		Linear	1.00	Hours
Factors	1 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried		Linear	3.00	Hours
Factors	3 Hours		1 Difficulty Factor						

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC74922 *Description:* Tap & drain System 92, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.241	1.241	26.161	6.726	0	32.887	11.506	44.393
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.534	3.534	0	3.534
	Total for Activity 1CAC74922:					1.241	26.161	6.726	3.534	36.421	11.506	47.927

Line Item 2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	32.68	Hours
Factors	43 Hours	0.76	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	269.04	Hours
Factors	354 Hours	0.76	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	753.62	Hours
Factors	1340 Hours	0.76	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	132.73	Hours
Factors	236 Hours		0.76 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	6.08	Hours
Factors	8 Hours		0.76 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	47.12	Hours
Factors	62 Hours		0.76 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	6,726.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.76 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,276.02	Dollars
Factors	2276.02 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,258.29	Dollars
Factors	1258.29 Dollars							

Activity ID: 1CAC74925 *Description:* Sludge removal - System 92 *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
5	Sys 92 - Sludge Removal	1.00	each		594	594	13,029	0	0	13,029	4,599	17,629
SYS	Contingency And Escalation	1.00	ea	FF	0	0	0	0	2,818	2,818	0	2,818
	Total for Activity 1CAC74925:					594	13,029	0	2,818	15,847	4,599	20,447

Line Item 5 - Sys 92 - Sludge Removal

BOE

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B774 Sludge Removal – For a 6 foot section (3 feet in each direction from the port).

1. Planning – 1 “hot” IWCP per superset. (Separate from this estimate)
2. Erect Scaffold – 1 tube & knuckle scaffold per port.  Crew-2 D&D Ops for 9 hours each; 1 RCT for 2.5 hours.
3. Set up equipment at each port.  Crew 2 D&D Ops for 4.5 hours each
4. ASSUME containment is set up for size reduction, not part of this estimate.
5. Install access port near sludge line 3’ diam. ? 9.5’ of cutting @ 4” per minute ? 0.5 hours for cutting; bolt flange cover into place ? 1 hour.  Crew – 5
D&D Ops; 1 RCT; 1 Foreman
6. Examine tank interior; probe sludge below the port; assess adequacy of the work plan.    Crew – 5 D&D Ops; 1 RCT; 1 Foreman.   ? 0.5 hour.
7. Remove sludge from tank using a method to be determined  after the results of tank sampling and characterization.  Sludge will be extracted at an average
rate of 6 gallons per hour.

? For TRU sludge the workers will be in SBA suits.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

? For Low Level sludge, no breathing apparatus is required.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

8.  Complete the same procedure (steps 5 through 7) for each port placed into the tank.
9.  After all the sludge has been removed from the tank, insert a steam cleaning wand into each port and steam clean the tank walls. . Crew – 5 D&D Ops; 1
RCT; 1 Foreman for 0.5 hours per port.
10.  Vacuum all condensate and residue sludge out of the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
11.  Close all access ports on the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
12.  Clean up the area surrounding each port. . Crew – 2 D&D Ops; 1 RCT for 0.5 hours per port.
13.  Remove the scaffold(s). (Removal is part of the scaffold set-up estimate.)


 A5C Procurement

Procure  hydrolasing rig (10,000 psi)  @ $100,000 each
Procure  High-power vacuum rig         @   $50,000 each.

For superset 90 buy 1 of each
For superset 91 buy 1 of each
For superset 95 buy 3 of each
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	222.00	Hours
Factors	222 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	315.00	Hours
Factors	315 Hours								
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	49.00	Hours
Factors	49 Hours								
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	8.00	Hours
Factors	8 Hours								

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	1,994.25	Dollars
Factors	1994.25 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	823.81	Dollars
Factors	823.813 Dollars								

WBS No: **1CAC93** ***Title:*** **Sys 93 - Rooms 101-105**

Activity ID: 1CAC74931 *Description:* Plan/Eng prep to drain Sys. 93. *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	18.823	149.795
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	15.848	15.848	0	15.848
	Total for Activity 1CAC74931:					1.729	46.717	84.255	15.848	146.820	18.823	165.644

Line Item 1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately two years ago. During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems. The original baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project		Linear	1.00	Hours
Factors	1 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried		Linear	3.00	Hours
Factors	3 Hours	1	Difficulty Factor						

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	10,434.04	Dollars
Factors	10434.0 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	5,414.23	Dollars
Factors	5414.23 Dollars							

Activity ID: 1CAC74932 *Description:* Tap & drain System 93, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	1.993	1.993	41.996	10.797	0	52.793	14.824	67.617
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.432	10.432	0	10.432
	Total for Activity 1CAC74932:					1.993	41.996	10.797	10.432	63.224	14.824	78.049

Line Item 2 - Tap & Drain

BOE

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The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately
two years ago.  During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems.  The original
baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of
access to the various systems.  The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected
in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down
performed by Kathy London and Gary Davis.  Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and
integration team.
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Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	52.46	Hours
Factors	43 Hours	1.22	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	431.88	Hours
Factors	354 Hours	1.22	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,209.75	Hours
Factors	1340 Hours	1.22	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	213.06	Hours
Factors	236 Hours		1.22 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	9.76	Hours
Factors	8 Hours		1.22 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	75.64	Hours
Factors	62 Hours		1.22 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	10,797.00	Dollars
Factors	118 Hours		75 Dollars per Hr		1.22 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	7,271.77	Dollars
Factors	7271.77 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,159.84	Dollars
Factors	3159.84 Dollars							

Activity ID: 1CAC74935 *Description:* Sludge removal - System 93 *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
5	Sys 93 - Sludge Removal	1.00	each		5.295	5.295	121.640	0	0	121.640	42.939	164.579
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	26.309	26.309	0	26.309
	Total for Activity 1CAC74935:					5.295	121.640	0	26.309	147.950	42.939	190.889

Line Item 5 - Sys 93 - Sludge Removal

BOE

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B774 Sludge Removal – For a 6 foot section (3 feet in each direction from the port).

1. Planning – 1 “hot” IWCP per superset. (Separate from this estimate)
2. Erect Scaffold – 1 tube & knuckle scaffold per port.  Crew-2 D&D Ops for 9 hours each; 1 RCT for 2.5 hours.
3. Set up equipment at each port.  Crew 2 D&D Ops for 4.5 hours each
4. ASSUME containment is set up for size reduction, not part of this estimate.
5. Install access port near sludge line 3’ diam. ? 9.5’ of cutting @ 4” per minute ? 0.5 hours for cutting; bolt flange cover into place ? 1 hour.  Crew – 5
D&D Ops; 1 RCT; 1 Foreman
6. Examine tank interior; probe sludge below the port; assess adequacy of the work plan.    Crew – 5 D&D Ops; 1 RCT; 1 Foreman.   ? 0.5 hour.
7. Remove sludge from tank using a method to be determined  after the results of tank sampling and characterization.  Sludge will be extracted at an average
rate of 6 gallons per hour.

? For TRU sludge the workers will be in SBA suits.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

? For Low Level sludge, no breathing apparatus is required.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

8.  Complete the same procedure (steps 5 through 7) for each port placed into the tank.
9.  After all the sludge has been removed from the tank, insert a steam cleaning wand into each port and steam clean the tank walls. . Crew – 5 D&D Ops; 1
RCT; 1 Foreman for 0.5 hours per port.
10.  Vacuum all condensate and residue sludge out of the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
11.  Close all access ports on the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
12.  Clean up the area surrounding each port. . Crew – 2 D&D Ops; 1 RCT for 0.5 hours per port.
13.  Remove the scaffold(s). (Removal is part of the scaffold set-up estimate.)


 A5C Procurement

Procure  hydrolasing rig (10,000 psi)  @ $100,000 each
Procure  High-power vacuum rig         @   $50,000 each.

For superset 90 buy 1 of each
For superset 91 buy 1 of each
For superset 95 buy 3 of each
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	3,656.00	Hours
Factors	3656 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	686.00	Hours
Factors	686 Hours								
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	802.00	Hours
Factors	802 Hours								
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	151.00	Hours
Factors	151 Hours								

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	18,618.12	Dollars
Factors	18618.1 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	7,691.04	Dollars
Factors	7691.04 Dollars								

WBS No: **1CAC94** ***Title:*** **Sys 94 - Rms 200, 204-09, 220, 301-06, 3**

Activity ID: 1CAC74941 *Description:* Plan/Eng prep to drain Sys. 94. *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	22.284	153.256
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.125	8.125	0	8.125
	Total for Activity 1CAC74941:					1.729	46.717	84.255	8.125	139.097	22.284	161.381

Line Item 1 - Planning & Engineering Prep to Drain

BOE

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The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project		Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project		Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	8.00	Hours
Factors	8 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	65.00	Hours
Factors	65 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	27.00	Hours
Factors	27 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project		Linear	1.00	Hours
Factors	1 Hours		1 Difficulty Factor						
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried		Linear	3.00	Hours
Factors	3 Hours		1 Difficulty Factor						

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4,902.35	Dollars
Factors	4902.35 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,222.64	Dollars
Factors	3222.64 Dollars							

Activity ID: 1CAC74942 *Description:* Tap & drain System 94, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	653	653	13,769	3,540	0	17,309	4,860	22,169
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3,420	3,420	0	3,420
	Total for Activity 1CAC74942:					653	13,769	3,540	3,420	20,729	4,860	25,590

Line Item 2 - Tap & Drain

BOE

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two years ago.  During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems.  The original
baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of
access to the various systems.  The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected
in the new baseline data presented herein.

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performed by Kathy London and Gary Davis.  Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and
integration team.
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Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	17.20	Hours
Factors	43 Hours	0.4	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	141.60	Hours
Factors	354 Hours	0.4	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	396.64	Hours
Factors	1340 Hours	0.4	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	69.86	Hours
Factors	236 Hours		0.4 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	3.20	Hours
Factors	8 Hours		0.4 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	24.80	Hours
Factors	62 Hours		0.4 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	3,540.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.4 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,384.19	Dollars
Factors	2384.19 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,036.01	Dollars
Factors	1036.01 Dollars							

WBS No: **1CAC95** ***Title:*** **Sys 95 - Rooms 241, 341, and 441**

Activity ID: 1CAC74951 *Description:* Plan/Eng prep to drain Sys. 95. *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	Planning & Engineering Prep to Drain	1.00	each	EE	1.729	1.729	46.717	84.255	0	130.972	16.491	147.463
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	22.040	22.040	0	22.040
	Total for Activity 1CAC74951:					1.729	46.717	84.255	22.040	153.012	16.491	169.504

Line Item 1 - Planning & Engineering Prep to Drain

BOE

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The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	110.00	Hours
Factors	110 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	52.00	Hours
Factors	52 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	33.00	Hours
Factors	33 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	406.00	Hours
Factors	406 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	8.00	Hours
Factors	8 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	65.00	Hours
Factors	65 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	27.00	Hours
Factors	27 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	1.00	Hours
Factors	1 Hours		1 Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	3.00	Hours
Factors	3 Hours		1 Difficulty Factor					

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	286.00	Hours
Factors	286 Hours	1	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	600.00	Hours
Factors	600 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	50.00	Hours
Factors	50 Hours	1	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	88.00	Hours
Factors	88 Hours	1	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	27,525.00	Dollars
Factors	367 Hours	75	Dollars per hr	1	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	6,225.00	Dollars
Factors	83 Hours	75	Dollars per hr	1	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	11,175.00	Dollars
Factors	149 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	14,580.00	Dollars
Factors	162 Hours	90	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	11,250.00	Dollars
Factors	150 Hours	75	Dollars per hr	1	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	13,500.00	Dollars
Factors	180 Hours	75	Dollars per hr	1	Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	15,149.17	Dollars
Factors	15149.2 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	6,891.17	Dollars
Factors	6891.17 Dollars							

Activity ID: 1CAC74952 *Description:* Tap & drain System 95, *Cost Risk* 4 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
2	Tap & Drain	1.00	each	EE	915	915	19,277	4,956	0	24,233	6,805	31,037
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4,788	4,788	0	4,788
	Total for Activity 1CAC74952:					915	19,277	4,956	4,788	29,021	6,805	35,826

Line Item 2 - Tap & Drain

BOE

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two years ago.  During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems.  The original
baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of
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integration team.
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Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	24.08	Hours
Factors	43 Hours	0.56	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	198.24	Hours
Factors	354 Hours	0.56	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	555.30	Hours
Factors	1340 Hours	0.56	Difficulty Factor					
		0.74	Heatcount Cuts					

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	97.80	Hours
Factors	236 Hours		0.56 Difficulty Factor		0.74 Heatcount Cuts			
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	4.48	Hours
Factors	8 Hours		0.56 Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	34.72	Hours
Factors	62 Hours		0.56 Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	4,956.00	Dollars
Factors	118 Hours		75 Dollars per Hr		0.56 Difficulty Factor			

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		*Skill*		*Department*	*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,337.86	Dollars
Factors	3337.86 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,450.42	Dollars
Factors	1450.42 Dollars							

Activity ID: 1CAC74955 *Description:* Sludge removal - System 95 *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
5	Sys 95 - Sludge Removal	1.00	each		35.129	35.129	807.018	0	0	807.018	282.917	1,089.935
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	212.971	212.971	0	212.971
	Total for Activity 1CAC74955:					35.129	807.018	0	212.971	1,019.989	282.917	1,302.906

Line Item 5 - Sys 95 - Sludge Removal

BOE

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B774 Sludge Removal – For a 6 foot section (3 feet in each direction from the port).

1. Planning – 1 “hot” IWCP per superset. (Separate from this estimate)
2. Erect Scaffold – 1 tube & knuckle scaffold per port.  Crew-2 D&D Ops for 9 hours each; 1 RCT for 2.5 hours.
3. Set up equipment at each port.  Crew 2 D&D Ops for 4.5 hours each
4. ASSUME containment is set up for size reduction, not part of this estimate.
5. Install access port near sludge line 3’ diam. ? 9.5’ of cutting @ 4” per minute ? 0.5 hours for cutting; bolt flange cover into place ? 1 hour.  Crew – 5
D&D Ops; 1 RCT; 1 Foreman
6. Examine tank interior; probe sludge below the port; assess adequacy of the work plan.    Crew – 5 D&D Ops; 1 RCT; 1 Foreman.   ? 0.5 hour.
7. Remove sludge from tank using a method to be determined  after the results of tank sampling and characterization.  Sludge will be extracted at an average
rate of 6 gallons per hour.

? For TRU sludge the workers will be in SBA suits.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

? For Low Level sludge, no breathing apparatus is required.
      Crew – 5 D&D Ops; 1 RCT; 1 Foreman

8.  Complete the same procedure (steps 5 through 7) for each port placed into the tank.
9.  After all the sludge has been removed from the tank, insert a steam cleaning wand into each port and steam clean the tank walls. . Crew – 5 D&D Ops; 1
RCT; 1 Foreman for 0.5 hours per port.
10.  Vacuum all condensate and residue sludge out of the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
11.  Close all access ports on the tank. . Crew – 5 D&D Ops; 1 RCT; 1 Foreman for 0.5 hours per port.
12.  Clean up the area surrounding each port. . Crew – 2 D&D Ops; 1 RCT for 0.5 hours per port.
13.  Remove the scaffold(s). (Removal is part of the scaffold set-up estimate.)


 A5C Procurement

Procure  hydrolasing rig (10,000 psi)  @ $100,000 each
Procure  High-power vacuum rig         @   $50,000 each.

For superset 90 buy 1 of each
For superset 91 buy 1 of each
For superset 95 buy 3 of each
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	24.085.00	Hours
Factors	24085 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	4.721.00	Hours
Factors	4721 Hours								
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	5.287.00	Hours
Factors	5287 Hours								
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	1.036.00	Hours
Factors	1036 Hours								

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	150.744.50	Dollars
Factors	150745 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	62.226.57	Dollars
Factors	62226.6 Dollars								

WBS No: **1CACAA** ***Title:*** **Deactivation Project Support**

Activity ID: 1CACAA00 *Description:* B771 / 774 Deactivation Support - FY00 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	B-774 Support	1.00	lot	EE	250	250	6.253	150.545	0	156.798	3.051	159.849
1F7MI200	Liquids B771 Project Management	1.00	lot	EE	7.541	7.541	234.866	130.646	0	365.512	114.614	480.126
	Total for Activity 1CACAA00:					7.791	241.118	281.191	0	522.309	117.666	639.975

Line Item 1 - B-774 Support

BOE

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Estimators Experience - Brian Larsen has developed project scopes and estimates for many projects at RFETS including the solution bottle disposition low
level tank drain, high level tank drain, B-771 re-engineering, and B-771/774 decommissioning.
Experience Item Desc -
B-774 Project support as described in the activity description.
Breakdown of Cost Data:
 Item - B-774 Project support as described in the activity description
 Units - lot
 Unit Cost = See Activity cost report
 Unit Cost Adjustment factor - N/A
 Revised Unit Cost - N/A
 Basis for adjustment - N/A
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project		Linear	250.00	Hours
Factors	250 Hours								
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	5.508.30	Dollars
Factors	250 Hours	61	Dollars per hour Zarret				0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	36.120.00	Dollars
Factors	80 Dollars per hour	1250	Hours				0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	K281S	Building 771 Closure Project		Linear	3.160.50	Dollars
Factors	70 Dollars per hour	125	Hours				0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	4.224.23	Dollars
Factors	11695 Prime Dollars						0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K100S	Kaiser-Hill		Linear	30.882.60	Dollars
Factors	950 Hours	90	Dollars per hour mgt review				0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	27.528.86	Dollars
Factors	76215 Dollars						0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	23.387.70	Dollars
Factors	925 Hours	70	Dollars per hour				0.3612 (82/227) Days		
A5H	SUBCONTRACTED SRVS	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project		Linear	19.733.03	Dollars
Factors	19733.0 Dollars								

Line Item 1F7MI200 - Liquids B771 Project Management

BOE

Estimators Experience - Ray Boyle, Liquids Removal Team Project Engineer, has nearly 40 years of experience as a degreed Chemical engineer managing numerous environmental projects. Ray has developed estimates for many projects at RFETS including the Solar Ponds, Low and High Level tank draining, and earlier work on B-771 tap and drain. He worked in the oil and gas industry for many years prior to coming to RFETS as a project manager for large drilling projects. He possesses the detailed knowledge and experience to quantify and qualify work necessary to perform activities described within the Tap and Drain/Process Pipin Removal scope.

Pam Arnold, Project Engineer for Liquids Removal Team, is an Environmental Scientist with over 25 years of experience in project design and execution. Nearly nine (9) years of her experience is at RFETS including five (5) years as a B-771 Liquids project engineer. Her experience with low-level tank draining, high-level tank draining, and prior years' tap and drain and pipe removal work give her applicable, direct knowledge about estimating the resources needed to perform the tasks within scope of the Process Piping Removal Project.

Experience Item Desc - Project management scope as described in the activity description.
Breakdown of Cost Data:
Item - Project management activities.
Units - Lot
Unit Cost - See totals
Unit Cost Adjustment factor - None
Revised Unit Cost - N/A
Basis for adjustment - N/A

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project		Linear	5,273.52	Hours
Factors	8 Foreman	1825 Hours		0.3612 82 Days					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	659.19	Hours
Factors	1825 Hours	0.3612 (82/227) Days		VonFeldt					
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K281S	Building 771 Closure Project		Linear	659.19	Hours
Factors	1825 hours	0.3612 (82/227) Days		Pam Arnold					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project		Linear	949.23	Hours
Factors	8 Foreman	1825 Hours		0.18 OT Factor		0.3612 82 Days			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	52,735.20	Dollars
Factors	1825 Hours	80 Dollars per hr Jeff Fauble				0.3612 (82/227) Days			
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	15,423.24	Dollars
Factors	700 Hours	61 Dollars per hour Zarret				0.3612 (82/227) Days			
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project		Linear	7,224.00	Dollars
Factors	20000 Dollars			0.3612 (82/227) Days					
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	52,735.20	Dollars
Factors	1825 Hours	80 Dollars per hour Parrish				0.3612 (82/227) Days			
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K281S	Building 771 Closure Project		Linear	2,528.40	Dollars
Factors	7000 Dollars/ea	0.3612 (82/227) Days							

Activity ID: 1CACAA01 *Description:* B771 / 774 Deactivation Support - FY01 *Cost Risk* 1 *Schedule Risk* 1

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	B-774 Support	1.00	lot	EE	250	250	6,253	381,893	0	388,146	2,982	391,128
1F7MI201	Liquids Project Management	1.00	each	EE	20,878	20,878	650,237	361,700	0	1,011,937	310,163	1,322,100
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	90,828	90,828	0	90,828
	Total for Activity 1CACAA01:					21,128	656,490	743,593	90,828	1,490,911	313,146	1,804,056

Line Item 1 - B-774 Support

BOE

Estimators Experience - Brian Larsen has developed project scopes and estimates for many projects at RFETS including the solution bottle disposition low level tank drain, high level tank drain, B-771 re-engineering, and B-771/774 decommissioning.
Experience Item Desc -
B-774 Project support as described in the activity description.
Breakdown of Cost Data:
Item - B-774 Project support as described in the activity description
Units - lot
Unit Cost - See activity cost total
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A

Basis for adjustment - N/A

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	250.00	Hours
Factors	250 Hours							
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	15,250.00	Dollars
Factors	250 Hours		61 Dollars per hour Zarret					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	100,000.00	Dollars
Factors	80 Dollars per hour		1250 Hours					
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	K281S	Building 771 Closure Project	Linear	8,750.00	Dollars
Factors	70 Dollars per hour		125 Hours					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	11,695.00	Dollars
Factors	11695 Prime Dollars							
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K100S	Kaiser-Hill	Linear	85,500.00	Dollars
Factors	950 Hours		90 Dollars per hour mgt review					
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	76,215.00	Dollars
Factors	76215 Dollars							
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	64,750.00	Dollars
Factors	925 Hours		70 Dollars per hour					
A5H	SUBCONTRACTED SRVS	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	19,733.03	Dollars
Factors	19733.0 Dollars							

Line Item 1F7MI201 - Liquids Project Management

BOE

Estimators Experience - Ray Boyle, Liquids Removal Team Project Engineer, has nearly 40 years of experience as a degreed Chemical engineer managing numerous environmental projects. Ray has developed estimates for many projects at RFETS including the Solar Ponds, Low and High Level tank draining, and earlier work on B-771 tap and drain. He worked in the oil and gas industry for many years prior to coming to RFETS as a project manager for large drilling projects. He possesses the detailed knowledge and experience to quantify and qualify work necessary to perform activities described within the Bottlebox scope. His recent management of B771 and B371 liquids projects has provided the experience necessary to scope and estimate the FY 99 B-771 Bottlebox effort.

Pam Arnold, Project Engineer for Liquids Removal Team, is an Environmental Scientist with over 25 years of experience in project design and completion. Nearly nine (9) years of her experience is at RFETS including five (5) years as a B-771 Liquids project engineer. Her experience with low-level tank draining, high-level tank draining, and prior years' tap and drain and pipe removal work give her applicable, direct knowledge about estimating resources needed to perform the tasks within scope of the Process Piping Removal Project.

Experience Item Desc - Project management scope as described in the activity description.
Breakdown of Cost Data:
Item - Project management activities.
Units - Lot
Unit Cost - See totals
Unit Cost Adjustment factor - None
Revised Unit Cost - N/A
Basis for adjustment - N/A

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project	Linear	14,600.00	Hours
Factors	8 Foreman		1825 Hours					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	1,825.00	Hours
Factors	1825 Hours		Von Feldtr					
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K281S	Building 771 Closure Project	Linear	1,825.00	Hours
Factors	1825 hours		Pam Arnold					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project	Linear	2,628.00	Hours
Factors	8 Foreman		1825 Hours		0.18 OT Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	146,000.00	Dollars
Factors	1825 Hours		80 Dollars per hr Jeff Fauble					
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	42,700.00	Dollars
Factors	700 Hours		61 Dollars per hour Zarret					
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project	Linear	20,000.00	Dollars
Factors	20000 Dollars							

A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	146,000.00	Dollars
Factors	1825 Hours		80 Dollars per hour Parrish					
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K281S	Building 771 Closure Project	Linear	7,000.00	Dollars
Factors	7000 Dollars/ea							

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element	Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	54,802.63	Dollars
Factors	54802.6 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	36,025.36	Dollars
Factors	36025.4 Dollars							

Activity ID: 1CACAA02 *Description:* B771 / 774 Deactivation Support - FY02 *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	B-774 Support	1.00	lot	EE	250	250	6,253	381,893	0	388,146	2,207	390,353
1F7MI202	Liquids Project Management	1.00	each	EE	9,450	9,450	282,724	82,829	0	365,553	99,801	465,354
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	127,897	127,897	0	127,897
	Total for Activity 1CACAA02:					9,700	288,976	464,722	127,897	881,595	102,009	983,604

Line Item 1 - B-774 Support

BOE

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Estimators Experience - Brian Larsen has developed project scopes and estimates for many projects at RFETS including the solution bottle disposition low
level tank drain, high level tank drain, B-771 re-engineering, and B-771/774 decommissioning.
Experience Item Desc -
B-774 Project support as described in the activity description.
Breakdown of Cost Data:
 Item - B-774 Project support as described in the activity description
 Units - lot
 Unit Cost - See activity cost totals
 Unit Cost Adjustment factor - N/A
 Revised Unit Cost - N/A
 Basis for adjustment - N/A
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Resources

	Cost Element	Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	250.00	Hours
Factors	250 Hours							
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	15,250.00	Dollars
Factors	250 Hours		61 Dollars per hour Zarret					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	100,000.00	Dollars
Factors	80 Dollars per hour		1250 Hours					
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	K281S	Building 771 Closure Project	Linear	8,750.00	Dollars
Factors	70 Dollars per hour		125 Hours					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	11,695.00	Dollars
Factors	11695 Prime Dollars							
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K100S	Kaiser-Hill	Linear	85,500.00	Dollars
Factors	950 Hours		90 Dollars per hour mgt review					
A5H	SUBCONTRACTED SRVS	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	76,215.00	Dollars
Factors	76215 Dollars							
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	64,750.00	Dollars
Factors	925 Hours		70 Dollars per hour					
A5H	SUBCONTRACTED SRVS	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	19,733.03	Dollars
Factors	19733.0 Dollars							

Line Item 1F7MI202 - Liquids Project Management

BOE

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Estimators Experience - Ray Boyle, Liquids Removal Team Project Engineer, has nearly 40 years of experience as a degreed Chemical engineer managing numerous
environmental projects.  Ray has developed  estimates for many  projects at RFETS including the Solar Ponds, Low and High Level tank draining, and earlier
work on B-771 tap and drain.  He worked in the oil and gas industry for many years prior to coming to RFETS as a project manager for large drilling
projects.  He possesses the detailed knowledge and experience to quantify and qualify work necessary to perform activities described within the Tap and
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Drain/Process Pipin Removal scope.

Pam Arnold, Project Engineer for Liquids Removal Team, is an Environmental Scientist with over 25 years of experience in project design and execution. Nearly
nine (9) years of her experience is at RFETS including five (5) years as a B-771 Liquids project engineer.  Her experience with low-level tank draining, high-
level tank draining, and prior years' tap and drain and pipe removal work give her applicable, direct knowledge about estimating the resources needed to
perform the tasks within scope of the Process Piping Removal Project.

Experience Item Desc - Project management scope as described in the activity description.
Breakdown of Cost Data:
 Item - Project management activities.
 Units - Lot
 Unit Cost - See totals
 Unit Cost Adjustment factor - None
 Revised Unit Cost - N/A
 Basis for adjustment - N/A
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Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project		Linear	7,300.00	Hours
Factors	8 Foreman		1825 Hours		0.5 Half the year				
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project		Linear	417.93	Hours
Factors	1825 Hours		Von Feldt		0.229 Deact runs (52/227) Days in 02				
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K281S	Building 771 Closure Project		Linear	417.93	Hours
Factors	1825 hours		Pam Arnold		0.229 Deact runs (52/227) Days in 02				
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project		Linear	1,314.00	Hours
Factors	8 Foreman		1825 Hours		0.18 OT Factor	0.5 Half the year			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	33,434.00	Dollars
Factors	1825 Hours		80 Dollars per hr Jeff Fauble			0.229 Deact runs (52/227) Days in 02			
A57	LATA	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	9,778.30	Dollars
Factors	700 Hours		61 Dollars per hour Zarret			0.229 Deact runs (52/227) Days in 02			
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project		Linear	4,580.00	Dollars
Factors	20000 Dollars		0.229 Deact runs (52/227) Days in 02						
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	33,434.00	Dollars
Factors	1825 Hours		80 Dollars per hour Parrish			0.229 Deact runs (52/227) Days in 02			
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K281S	Building 771 Closure Project		Linear	1,603.00	Dollars
Factors	7000 Dollars/ea		0.229 Deact runs (52/227) Days in 02						

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	87,908.35	Dollars
Factors	87908.4 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	39,988.43	Dollars
Factors	39988.4 Dollars								

Activity ID: 1CACAAA1 *Description:* B774 Tank characterization & sampling (sludge) *Cost Risk* 5 *Schedule Risk* 5

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
1	B774 Tank Characterization & Sampling (Sludge)	1.00	each		0	0	0	62,610	0	62,610	0	62,610
4HA6A1201	Develop IWCP (Cold)	1.00	each	EE	0	0	0	6,750	0	6,750	0	6,750
4HA6A1202	Develop JHA/Conduct Walkdown (Cold)	1.00	each	EE	24	24	502	1,620	0	2,122	245	2,367
4HA6A1206	Develop EO & JHIT (Cold)	1.00	each	EE	0	0	0	7,200	0	7,200	0	7,200
4HA6A1210	Conduct IWCP/EO Review (Cold)	1.00	each	EE	10	10	218	1,918	0	2,135	106	2,242
4HA6A1211	Incorporate IWCP/EO Comments (Cold)	1.00	each	EE	0	0	0	1,675	0	1,675	0	1,675
	Total for Activity 1CACAAA1:					34	720	81,773	0	82,492	351	82,844

Line Item 1 - B774 Tank Characterization & Sampling (Sludge)

BOE

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The original resources and skill quantities for the Liquids Systems in the Building 771/774 complex were generated by the original liquids team approximately
two years ago.  During the last year, a detailed analysis of actual costs and times for labor categories was conducted upon completed systems.  The original
baseline for liquids was modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of
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access to the various systems. The results of those analyses have been applied to the remaining Building 771/774 complex liquids systems and are reflected in the new baseline data presented herein.

The pipe lengths for Tap and Drain, pipe accessibility and pipe contamination factors for Building 774 were assessed during an April, 2000 walk-down performed by Kathy London and Gary Davis. Pipe lengths for process piping removal were determined during earlier walk-downs of B774 by the planning and integration team.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K267S	Analytical Laboratory Services	Linear	62,610.00	Dollars

Factors 2087 per Event 30 Events = (2 Samples per Day)

Line Item 4HA6A1201 - Develop IWCP (Cold)

BOE

Estimators Experience - Decommissioning planning estimates were generated by detailed estimating sessions conducted between 2 D&D Planners, 1 Lead D&D Engineer, 1 SME Scheduler/Estimator.
Experience Item Desc - Paul Leitz (B771 D&D Planner), Mike Millard (B771 D&D Planner), and Linda Rudd (SME Scheduler/Estimator) generated the estimates based upon the set/area scope to determine the types (cold/hot/balance) and quantities of work packages required.
Breakdown of Cost Data:
Item - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Units - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost Adjustment factor - N/A.
Revised Unit Cost - N/A.
Basis for adjustment - N/A.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	6,750.00	Dollars

Factors 6750 Dollars Planner

Line Item 4HA6A1202 - Develop JHA/Conduct Walkdown (Cold)

BOE

Estimators Experience - Decommissioning planning estimates were generated by detailed estimating sessions conducted between 2 D&D Planners, 1 Lead D&D Engineer, 1 SME Scheduler/Estimator.
Experience Item Desc - Paul Leitz (B771 D&D Planner), Mike Millard (B771 D&D Planner), and Linda Rudd (SME Scheduler/Estimator) generated the estimates based upon the set/area scope to determine the types (cold/hot/balance) and quantities of work packages required.
Breakdown of Cost Data:
Item - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Units - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost Adjustment factor - N/A.
Revised Unit Cost - N/A.
Basis for adjustment - N/A.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KC10H	771 Complex Steelworkers	Linear	4.80	Hours

Factors 4.8 Hours

750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers	Linear	14.40	Hours

Factors 14.4 Hours

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	4.80	Hours

Factors 4.8 Hours

A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	1,080.00	Dollars

Factors 1080 Dollars Technical Support

A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project	Linear	540.00	Dollars

Factors 540 Dollars Planner

Line Item 4HA6A1206 - Develop EO & JHIT (Cold)

BOE

Estimators Experience - Decommissioning planning estimates were generated by detailed estimating sessions conducted between 2 D&D Planners, 1 Lead D&D Engineer, 1 SME Scheduler/Estimator.
Experience Item Desc - Paul Leitz (B771 D&D Planner), Mike Millard (B771 D&D Planner), and Linda Rudd (SME Scheduler/Estimator) generated the estimates based upon the set/area scope to determine the types (cold/hot/balance) and quantities of work packages required.
Breakdown of Cost Data:
Item - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Units - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost Adjustment factor - N/A.

Revised Unit Cost - N/A.
Basis for adjustment - N/A.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	7,200.00	Dollars
Factors	7200 Dollars		Engineer						

Line Item 4HA6A1210 - Conduct IWCP/EO Review (Cold)

BOE

Estimators Experience - Decommissioning planning estimates were generated by detailed estimating sessions conducted between 2 D&D Planners, 1 Lead D&D Engineer, 1 SME Scheduler/Estimator.
Experience Item Desc - Paul Leitz (B771 D&D Planner), Mike Millard (B771 D&D Planner), and Linda Rudd (SME Scheduler/Estimator) generated the estimates based upon the set/area scope to determine the types (cold/hot/balance) and quantities of work packages required.
Breakdown of Cost Data:
Item - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Units - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost Adjustment factor - N/A.
Revised Unit Cost - N/A.
Basis for adjustment - N/A.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	KC10H	771 Complex Steelworkers		Linear	2.40	Hours
Factors	2.4 Hours								
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	2.40	Hours
Factors	2.4 Hours								
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K281S	Building 771 Closure Project		Linear	2.40	Hours
Factors	2.4 Hours								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	2.40	Hours
Factors	2.4 Hours								
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	477.60	Dollars
Factors	477.6 Dollars		Nuc/Crit Engineer						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	1,080.00	Dollars
Factors	1080 Dollars		Tech Support						
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project		Linear	360.00	Dollars
Factors	360 Dollars		Engineer						

Line Item 4HA6A1211 - Incorporate IWCP/EO Comments (Cold)

BOE

Estimators Experience - Decommissioning planning estimates were generated by detailed estimating sessions conducted between 2 D&D Planners, 1 Lead D&D Engineer, 1 SME Scheduler/Estimator.
Experience Item Desc - Paul Leitz (B771 D&D Planner), Mike Millard (B771 D&D Planner), and Linda Rudd (SME Scheduler/Estimator) generated the estimates based upon the set/area scope to determine the types (cold/hot/balance) and quantities of work packages required.
Breakdown of Cost Data:
Item - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Units - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost - See B771 Planning Template, B771/774 Set Planning Packages, dated June 1, 2000.
Unit Cost Adjustment factor - N/A.
Revised Unit Cost - N/A.
Basis for adjustment - N/A.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	270.00	Dollars
Factors	270 Dollars		Engineer						
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project		Linear	955.20	Dollars
Factors	955.2 Dollars		Nuc/Crit Engineer						
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K281S	Building 771 Closure Project		Linear	450.00	Dollars
Factors	450 Dollars		Planner						

WBS No: 1CACAB *Title:* **PCB Oil Removal**
Activity ID: 1CACAB00 *Description:* Remove PCB Oils from Tanks 102 & 103 *Cost Risk* 5 *Schedule Risk* 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost

1	PCB Oil Removal	1.00	each		90	90	1.847	0	0	1.847	901	2.748
	Total for Activity 1CACAB00:					90	1.847	0	0	1.847	901	2.748

Line Item 1 - PCB Oil Removal

BOE

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Estimators Experience - B774 Size Reduction Methodology estimates were generated by detailed estimating sessions conducted between 2 Certified Estimators and
several Subject Matter Experts.
Experience Item Desc - Gary Davis (Certified Cost Engineer) and John Allen (Certified Professional Estimator) generated the estimates with input from
multiple B771 Subject Matter Experts.
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Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	18.00	Hours
Factors	18 Hours							
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	72.00	Hours
Factors	72 Hours							

WBS No: **1CACAC** ***Title:*** **B707/776 Oil Drum Acceptance**
Activity ID: 1CACAC00 *Description:* Transfer oil drums from B707 / B776 to B774 *Cost Risk* 4 *Schedule Risk* 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	B707/776 Oil Drum Acceptance	1.00	each		2.331	2.331	47.857	0	0	47.857	22.878	70.735
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.313	3.313	0	3.313
	Total for Activity 1CACAC00:					2.331	47.857	0	3.313	51.170	22.878	74.048

Line Item 1 - B707/776 Oil Drum Acceptance

BOE

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Estimators Experience - B774 Size Reduction Methodology estimates were generated by detailed estimating sessions conducted between 2 Certified Estimators and
several Subject Matter Experts.
Experience Item Desc - Gary Davis (Certified Cost Engineer) and John Allen (Certified Professional Estimator) generated the estimates with input from
multiple B771 Subject Matter Experts.
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Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	567.00	Hours
Factors	567 Hours							
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	1,764.00	Hours
Factors	1764 Hours							

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,969.20	Dollars
Factors	1969.2 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,343.93	Dollars
Factors	1343.93 Dollars							

WBS No: **1CACAD** ***Title:*** **Ship Legacy Drums**
Activity ID: 1CACAD00 *Description:* Ship Legacy Drums *Cost Risk* 4 *Schedule Risk* 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4HACAD100	Ship Legacy Drums to B771	100.00	each	EE	2	150	3.083	0	0	3.083	1.483	4.566
4HACAD200	Repack Drums	100.00	each	EE	18	1,750	35.935	0	0	35.935	17.277	53.213
4HACAD300	Purchase New Drums for Repack	100.00	each	EE	0	0	0	11.488	0	11.488	0	11.488
4HACAD400	Move Re-packed Drums	100.00	each	EE	2	150	3.083	0	0	3.083	1.483	4.566
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.503	2.503	0	2.503
	Total for Activity 1CACAD00:					2.050	42.102	11.488	2.503	56.094	20.242	76.336

Line Item 4HACAD100 - Ship Legacy Drums to B771

BOE

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1. Ship drum to B771 at a rate of 4 drums per hour.  Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50
    hours each.
2. Repack drums in a tent (Room 186). Crew - 3 D&D Ops (in PAPRs); 1 RCT (in PAPR); 1 Foreman
    for 3 hours per drum.
3. Move re-packed drums to the B771 shipping dock.  Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total
    of 50 hours each.
```

4. Purchase 100 new drums for the re-pack; ship 100 old drums as waste. Drums are estimated to be 80 TRU and 20 LLW.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	0.50	Hours
Factors	0.5	Hour							
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	1.00	Hours
Factors	1	Hour							

Line Item 4HACAD200 - Repack Drums

BOE

1. Ship drum to B771 at a rate of 4 drums per hour. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
2. Repack drums in a tent (Room 186). Crew - 3 D&D Ops (in PAPRs); 1 RCT (in PAPR); 1 Foreman for 3 hours per drum.
3. Move re-packed drums to the B771 shipping dock. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
4. Purchase 100 new drums for the re-pack; ship 100 old drums as waste. Drums are estimated to be 80 TRU and 20 LLW.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	4.50	Hours
Factors	4.5	Hour							
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	13.00	Hours
Factors	13	Hour							

Line Item 4HACAD300 - Purchase New Drums for Repack

BOE

1. Ship drum to B771 at a rate of 4 drums per hour. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
2. Repack drums in a tent (Room 186). Crew - 3 D&D Ops (in PAPRs); 1 RCT (in PAPR); 1 Foreman for 3 hours per drum.
3. Move re-packed drums to the B771 shipping dock. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
4. Purchase 100 new drums for the re-pack; ship 100 old drums as waste. Drums are estimated to be 80 TRU and 20 LLW.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project		Linear	114.88	Dollars
Factors	114.88	per Drum Burdened							

Line Item 4HACAD400 - Move Re-packed Drums

BOE

1. Ship drum to B771 at a rate of 4 drums per hour. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
2. Repack drums in a tent (Room 186). Crew - 3 D&D Ops (in PAPRs); 1 RCT (in PAPR); 1 Foreman for 3 hours per drum.
3. Move re-packed drums to the B771 shipping dock. Crew - 2 D&D Ops; 1 RCT; 1 Foreman for a total of 50 hours each.
4. Purchase 100 new drums for the re-pack; ship 100 old drums as waste. Drums are estimated to be 80 TRU and 20 LLW.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	0.50	Hours
Factors	0.5	Hour							
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	1.00	Hours
Factors	1	Hour							

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	1,487.96	Dollars
Factors	1487.96	Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	1,015.50	Dollars
Factors	1015.5	Dollars							

Activity ID: 1CACAE100 *Description:* Planning for B771 Water-wall draining proj. *Cost Risk* 1 *Schedule Risk* 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4GW100H1	Planning & Engineering Prep to Drain	1.00	each	EE	865	865	23,359	43,253	0	66,611	11,399	78,010
	Total for Activity 1CACAE100:					865	23,359	43,253	0	66,611	11,399	78,010

Line Item 4GW100H1 - Planning & Engineering Prep to Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K281S	Building 771 Closure Project	Linear	55.00	Hours
Factors	110 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	26.00	Hours
Factors	52 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K281S	Building 771 Closure Project	Linear	16.50	Hours
Factors	33 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	203.00	Hours
Factors	406 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K281S	Building 771 Closure Project	Linear	4.00	Hours
Factors	8 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K281S	Building 771 Closure Project	Linear	32.50	Hours
Factors	65 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	P150	TRAINERS	K281S	Building 771 Closure Project	Linear	13.50	Hours
Factors	27 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K281S	Building 771 Closure Project	Linear	0.50	Hours
Factors	1 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	S010	CHEMISTS	S100S	SSOC Salaried	Linear	1.50	Hours
Factors	3 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	143.00	Hours
Factors	286 Hours	0.5	Difficulty Factor					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	300.00	Hours
Factors	600 Hours	0.5	Difficulty Factor					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	25.00	Hours
Factors	50 Hours	0.5	Difficulty Factor					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	44.00	Hours
Factors	88 Hours	0.5	Difficulty Factor					
A52	TENERA	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project	Linear	13,762.50	Dollars
Factors	367 Hours	75	Dollars per hr	0.5	Difficulty Factor			
A52	TENERA	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	3,112.50	Dollars
Factors	83 Hours	75	Dollars per hr	0.5	Difficulty Factor			
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	5,587.50	Dollars
Factors	149 Hours	75	Dollars per hr	0.5	Difficulty Factor			
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project	Linear	6,750.00	Dollars
Factors	13500 Dollars	0.5	Difficulty Factor					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	7,290.00	Dollars
Factors	162 Hours	90	Dollars per hr	0.5	Difficulty Factor			
A5H	SUBCONTRACTED SRVS	P080	HEALTH PHYSICISTS	K281S	Building 771 Closure Project	Linear	6,750.00	Dollars
Factors	180 Hours	75	Dollars per hr	0.5	Difficulty Factor			

Activity ID: 1CACAE200 *Description:* B771 Water-Wall draining projects *Cost Risk* 5 *Schedule Risk* 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost

4GW200H2	Tap & Drain	1.00	each	EE	2.043	2.043	42.806	18.050	0	60.856	20.735	81.591
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.428	1.428	0	1.428
	Total for Activity 1CACAE200:					2.043	42.806	18.050	1.428	62.284	20.735	83.019

Line Item 4GW200H2 - Tap & Drain

BOE

The original resources and skill quantities for the Liquids Systems in Building 771 were generated by the Liquids team headed by Mr. Ray Boyle approximately two years ago. During the last year, a detailed analysis of actual costs and times by labor was conducted upon completed systems. The original baseline for liquids has been modified to take advantage of the actual charge comparison, regression analysis to determine cost driving factors, and difficulty of access to the various systems. The results of those analyses have been applied to the remaining liquids systems and are reflected in the new baseline data presented herein.

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	43.00	Hours
Factors	43 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	354.00	Hours
Factors	354 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	1,340.00	Hours
Factors	1340 Hours	1	Difficulty Factor						
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers		Linear	236.00	Hours
Factors	236 Hours	1	Difficulty Factor						
751	OVERTIME BASE & PRE.	C120	D&D SKILLED TRADES	KC10H	771 Complex Steelworkers		Linear	8.00	Hours
Factors	8 Hours	1	Difficulty Factor						
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers		Linear	62.00	Hours
Factors	62 Hours	1	Difficulty Factor						
A5C	SUPPLIES	0000	NONE	K281S	Building 771 Closure Project		Linear	9,200.00	Dollars
Factors	9200 Hours	1	Dollars	1	Difficulty Factor				
A5H	SUBCONTRACTED SRVS	E070	MECHANICAL ENGINEERS	K281S	Building 771 Closure Project		Linear	8,850.00	Dollars
Factors	118 Hours	75	Dollars per Hr	1	Difficulty Factor				

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department		Linear	866.96	Dollars
Factors	866.957 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department		Linear	561.17	Dollars
Factors	561.173 Dollars								

WBS No: **1CACBB** ***Title:*** **Bottlebox/Cementation Operations**

Activity ID: 1CACBB00 *Description:* B774 Bottle / Cementation Operations - FY00 *Cost Risk* 3 *Schedule Risk* 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4HACBB00	Bottlebox Treat Bottles	20.00	ea	HC	49	980	20.081	30.426	0	50.507	9.772	60.279
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	382	382	0	382
	Total for Activity 1CACBB00:					980	20.081	30.426	382	50.889	9.772	60.661

Line Item 4HACBB00 - Bottlebox Treat Bottles

BOE

Historical Data Source - WBS element 110409030301 rpt_002a for February, 1999 reporting period which can easily be retrieved from the FY 99 P&I Reporting System or in the B-771 Closure Planning offices in T-771J. 110409030301 contained the scope of work for the FY 99 bottlebox effort of 45 batches, and is nearly identical to the scope of this effort (except for the number of batches).

Item Desc - A batch of TRU waste ion-x resin or low-level solution from various operations.
Breakdown of Historical Data:
Item - A batch of solution
Units - Ea
Unit Cost - $4,275 (FY 99 ACWP per batch)
Unit Cost Adjustment factor - .78
Revised Unit Cost - $3,333
Basis for adjustment - The FY 99 ACWP has been reduced 22 percent to allow for efficiencies and improved performance experienced as more batches were processed.

FY00 Estimate would include 20 wks 22May00 - 30Sep00 x 1 batch per wk = 20 batches.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KC10H	771 Complex Steelworkers	Linear	21.00	Hours
Factors	21 Hours		3 PSs X 7 hrs per batch					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	16.00	Hours
Factors	16 Hours		2 RCTs X 6 hrs per batch, + one 4 hrs					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	12.00	Hours
Factors	12 Hours		3 Techs X 4 hrs					
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	70.00	Dollars
Factors	1 Hour		70 Dollars per hour					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	1,280.00	Dollars
Factors	80 Dollars per hour		16 Hours per batch					
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	171.30	Dollars
Factors	171.3 Prime Dollars							

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	225.55	Dollars
Factors	225.554 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	156.43	Dollars
Factors	156.428 Dollars							

Activity ID: 1CACBB01 *Description:* B774 Bottle / Cementation Operations - FY01 *Cost Risk* 3 *Schedule Risk* 3

Line Item	*Description*	*Quantity*	*Units*	*BOE Type*	*Labor Hours/Unit*	*Labor Hours Total*	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
4HACBB01	Bottlebox Treat Bottles	40.00	ea	HC	49	1,960	40,161	60,852	0	101,013	19,157	120,170
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	6,485	6,485	0	6,485
	Total for Activity 1CACBB01:					1,960	40,161	60,852	6,485	107,499	19,157	126,656

Line Item 4HACBB01 - Bottlebox Treat Bottles

BOE

Historical Data Source - WBS element 110409030301 rpt_002a for February, 1999 reporting period which can easily be retrieved from the FY 99 P&I Reporting System or in the B-771 Closure Planning offices in T-771J. 110409030301 contained the scope of work for the FY 99 bottlebox effort of 45 batches, and is nearly identical to the scope of this effort (except for the number of batches).

Item Desc - A batch of TRU waste ion-x resin or low-level solution from various operations.
Breakdown of Historical Data:
 Item - A batch of solution
 Units - Ea
 Unit Cost - $4,275 (FY 99 ACWP per batch)
 Unit Cost Adjustment factor - .78
 Revised Unit Cost - $3,333
 Basis for adjustment - The FY 99 ACWP has been reduced 22 percent to allow for efficiencies and improved performance experienced as more batches were processed.

FY01 Estimate would include 40 wks 01Oct00 - 30Jun00 x 1 batch per wk = 40 batches.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	R010	CHEMICAL SYSTEMS OPERATOR (	KC10H	771 Complex Steelworkers	Linear	21.00	Hours
Factors	21 Hours		3 PSs X 7 hrs per batch					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KC10H	771 Complex Steelworkers	Linear	16.00	Hours
Factors	16 Hours		2 RCTs X 6 hrs per batch, + one 4 hrs					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KC10H	771 Complex Steelworkers	Linear	12.00	Hours
Factors	12 Hours		3 Techs X 4 hrs					
A57	LATA	P160	TECHNICAL WRITERS AND EDITOR	K281S	Building 771 Closure Project	Linear	70.00	Dollars
Factors	1 Hour		70 Dollars per hour					
A5H	SUBCONTRACTED SRVS	E080	NUCLEAR (CRITICALITY) ENGINEER	K281S	Building 771 Closure Project	Linear	1,280.00	Dollars
Factors	80 Dollars per hour		16 Hours per batch					

A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K281S	Building 771 Closure Project	Linear	171.30	Dollars

Factors 171.3 Prime Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		*Skill*		*Department*		*Curve*	*Quantity*	*Units*
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,958.50	Dollars

Factors 3958.50 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,526.91	Dollars

Factors 2526.91 Dollars

Report Totals:

Labor Hours Total	*Labor Cost Total*	*Materials/ Sub Cost*	*Contingency & Escalation*	*Total Prime Cost*	*Burden Cost*	*Total Cost*
214.253	5,230,159	3,858,525	771,487	9,860,171	2,315,238	12,175,408